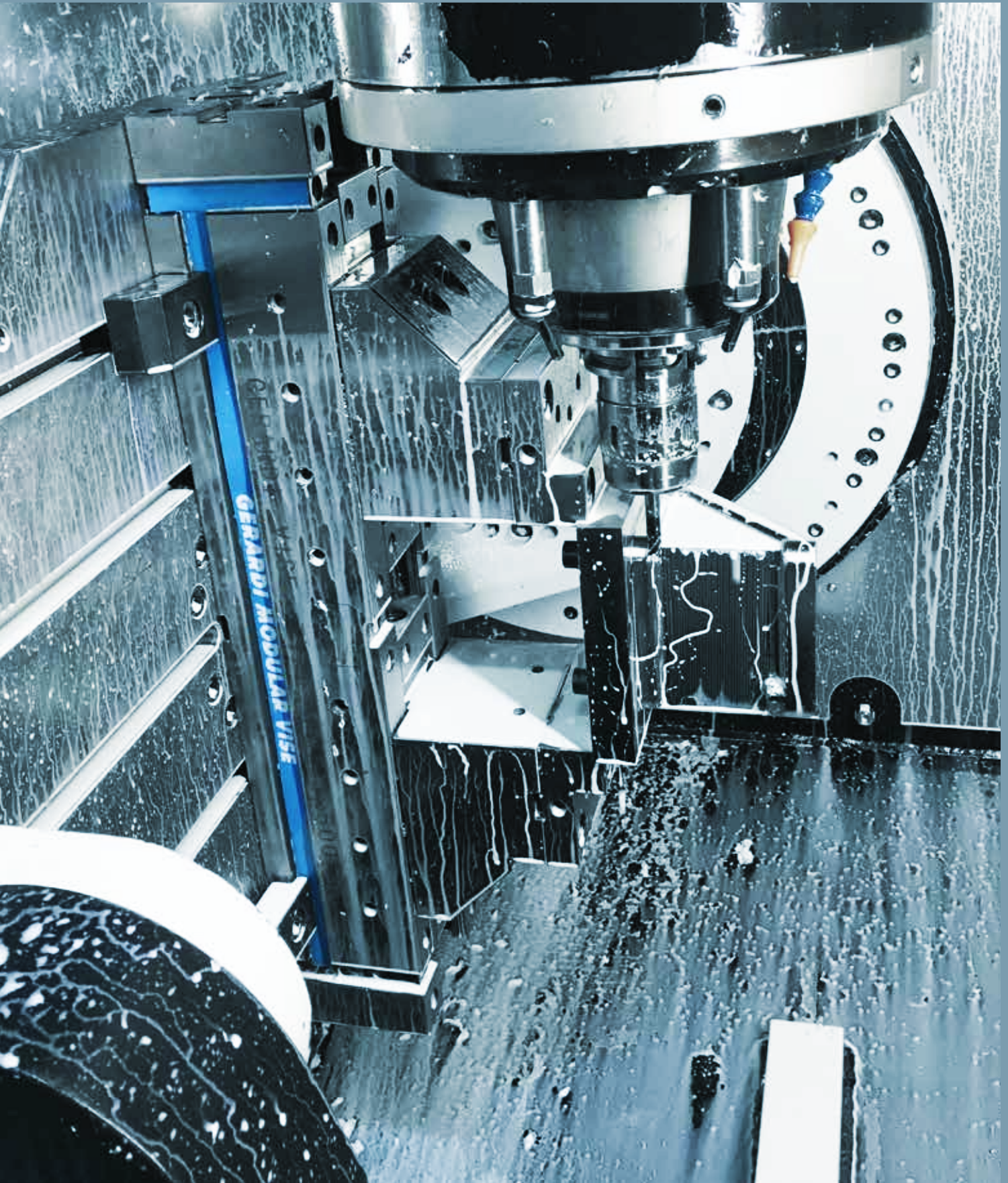


# FMS Series MORSE & CUBI-MORSA - VISES & VISE-TOWERS



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# VALIGETTA DI CAMPIONATURA FMS (Art.860)

## FMS SAMPLE KIT CASE (Art.860)

**NEW!**


### Art. 983

 Valigetta di campionatura morsa Art.860 T.1x300  
 Sample kit case Art.860 T.1x300 vise

Cod. 0.98.30000

**All'Interno - Inside:**

Art.810L	Art. 806B	Art.297 16/18
Art. 807	Art. 806C	Art.850H
Art. 810X	Art.806D	Art.370 T1 Std
Art. 814	Art.806E	Art.375 CH12
Art. 810J	Art.806F	- -
Art. 814	Art.298	- -



## SIMBOLOGIA DATI TECNICI

### TECHNICAL DATA ICONS

GANASCE JAWS		Piane Straights		A gradino With step		Oscillanti a gradino Floating step		Oscillanti regolabili Floating adjustable		Alte e rialzate High and raised		Prismatiche Prismatic
	PIASTRE GANASCE JAW PLATES		Discendente Pull down		Piana Straight		Cambio rapido manuale Quick manual change		GRIP GRIP		Inserti GRIP Inserti GRIP	
POSSIBILITÀ DI POSSIBILITY OF									Predisposizione Zero Point Zero Point Ready		Cubi-morsa Vise tower	
	PAGINE PAGES		Lavorazioni a 5 assi 5 axis machining		Accessori & Ricambi Accessories & Spare Parts		Istruzioni corretto utilizzo Instruction for a proper use		Diagrammi forze di serraggio Clamping force diagrams		Sistema Idraulico Hydraulic System	

# SISTEMA MODULARE FLESSIBILE

## FLEXIBLE MODULAR SYSTEM



**Morse e Cubi-Morsa serie FMS - Morse Singole, Doppie, Autocentranti & centinaia di ganasce disponibili**  
**FMS vises and Vise-Towers series - Single, Double and Self-centering Vises and hundreds of jaws available**

Di speciale interesse per gli utilizzatori di centri di lavoro orizzontali e verticali le morse FMS presentano le stesse caratteristiche costruttive illustrate per le morse della serie STD, XL, gli elementi modulari e gli accessori (accuratamente rettificati in acciaio ad alta resistenza cementato e temprato con durezza 60 HRC).

Nata espressamente per i centri di lavoro, la gamma FMS permette ottimizzazioni di serraggio con riferimenti precisi in spazi contenuti, usure inesistenti e rigidità impensabile (spessore della base raddoppiato), possibilità di bloccare più pezzi contemporaneamente con l'ausilio di sistemi meccanici, pneumatici, elettrici o idraulici. Tutte sono disponibili/predisposte sia per piazzamenti verticali che orizzontali. Ganasce da 75 a 190 mm. Serraggi di qualsiasi lunghezza.

La caratteristica (Brevetata) che meglio contraddistingue questa serie di morse consiste nella possibilità di trasformare ogni morsa singola (cioè adibita al serraggio di un singolo pezzo) in una morsa autocentrante con bloccaggio concentrico dall'esterno all'interno e viceversa e in morsa doppia tramite la semplice sostituzione delle ganasce sul corpo base universale. Un semplice e rapido accorgimento permetterà quindi le seguenti alternative di serraggio: un singolo pezzo lungo, due pezzi più piccoli oppure operare in modo autocentrante. Tutto ciò ne suggerisce l'impiego in situazioni produttive caratterizzate da lotti di pezzi estremamente diversi fra loro riducendo tempi di set-up e garantendo un'accurata ripetibilità di posizionamento e quindi di precisione migliorando l'efficienza globale del sistema produttivo.

Of special interest to horizontal and vertical machining centres users FMS vises present the same building characteristics of STD and XL vises, modular elements and accessories (hardened HRC 60 & ground steel construction throughout). Born to be dedicated to machining centres, FMS series of vises allow workholdings with perfect alignment in a space saving design, extremely high wear resistance, with deflection reduced 2 times in respect to the STD modular vises (base thickness doubled), possibility to clamp more pieces simultaneously with mechanic, hydraulic pneumatic or electric devices. You can use them both for vertical and horizontal clamping without any price charge. Jaws widths from 75 to 190 mm. Grip any work length.

The feature (Patented) which identifies this line of vises consists in the possibility to transform each single vise (1 piece clamping) in a self-centering vise with possibility to block from outside to inside and viceversa and in a double vise through the simple substitution of the jaws on the universal vise body base.

A simple and quick adjustment will then allow following clamping alternatives: single long piece, 2 smaller pieces or to operate in the self-centering way.

All that suggests their use in the production of lots of highly different pieces reducing set-up times and assuring very accurate repeatability of workpiece position and precision, increasing the global efficiency of the production process.



### ESTREMA VERSATILITÀ

- 3 posizioni per la ganascia fissa; ▪ Serraggio dall'esterno all'interno e viceversa;
- Posizionamento verticale-orizzontale-laterale; ▪ Collegamento: fianco a fianco, dorso a dorso, fianco a dorso; ▪ Possibilità illimitata per ganasce speciali; ▪ Sostituzione semplice e precisa delle ganasce; ▪ Elemento di prolunga per pezzi fuori misura;
- Sistema di serraggio meccanico, idraulico, pneumatico elettrico o con moltiplicatore di potenza, tramite comando manuale, a pedale o mediante pulsante elettrico (vedi pag. 12); ▪ Costruzione solida e compatta e massima apertura rispetto alla sua lunghezza; ▪ Flessioni praticamente ridotte di due volte rispetto alle precedenti morse modulari standard; ▪ Accurata ripetibilità di posizionamento del pezzo da lavorare; ▪ Precisioni geometriche con tolleranze entro 0,02 mm; ▪ Protezione integrale dalla penetrazione di corpi estranei tramite piastre scorrevoli; ▪ Possibilità di trasformazione di ogni morsa singola in morsa autocentrante o in morsa doppia tramite la semplice sostituzione delle ganasce sul corpo base universale.

### EXTREME VERSATILITY

- 3 positions for the fixed jaw; ▪ Outside to inside clamping and viceversa; ▪ Vertically, horizontally and sideways vise positioning;
- Side to side, back to back and back to side vise positioning; ▪ Unlimited special jaws; ▪ Simple and precise exchange of jaws;
- Extension element for extra-long pieces; ▪ Mechanic, hydraulic or pneumatic or electrical clamping system or with pressure multiplier, through manual, pedal or push button board control (see page 12); ▪ Space saving design, solid construction and maximum blocking ratio to total length; ▪ Deflection reduced two times with respect to the STANDARD modular vises; ▪ Very accurate repeatability of workpiece position; ▪ Geometrical accuracy with tolerances within 0,02 mm; ▪ Integral protection from chips and dirty through sliding protection; ▪ Possibility to transform each single vise in a self-centering vise with possibility to block from outside to inside and vice versa and in a double vise through the simple substitution of the jaws on the universal vise body base.

**1 SISTEMA TERZA MANO**

Per preserraggi in verticali

**1 THIRD HAND SERVICE**

For vertical workpieces preload

**3 GANASCE MOBILI OSCILLANTI**

Ganasce mobili oscillanti (per serraggio di pezzi irregolari)

**3 STEP MOVABLE JAWS**

Floating movable jaws (for irregular workpieces)

**5 GANASCE MOBILI A GRADINO**

Ganasce mobili a gradino (ideali per fori passanti)

**5 STEP MOVABLE JAWS**

Step movable jaws (for drilling holes through)

**7 GANASCIA FISSA DOPPIA**

Ganasce centrali fisse doppie con gradino piccolo e grande

**7 DOUBLE FIXED JAWS**

Central double fixed jaws with small and large step

**9 CHIAVETTE di POSIZIONAMENTO**

Chiavette longitudinali e trasversali sia sulla base, per posizione orizzontale, che in testa per posizione verticale

**9 POSITIONING KEYWAYS**

Longitudinal and cross keyways both on the base bottom surface for horizontal positioning and on the side for vertical positioning

**10 VITE PRINCIPALE**

All'interno vite principale (completamente protetta) con filetto destro e sinistro

**10 MAIN SPINDLE**

Inside (completely protected) main spindle with left and right thread

**2 3 MORSE IN UNA**

Ghiera per trasformazione morsa da doppia in autocentrante e viceversa

**2 3 VISES IN ONE**

Nut for vise configuration resetting from double to self-centering and viceversa

**4 GANASCE A CAMBIO RAPIDO**

Ganasce con piastre discendenti a cambio rapido manuale

**4 COMB SYSTEM JAWS**

Pull down jaw plates with comb system (quick hand change)

**6 RIGIDITÀ CUBO MORSA**

Cubo monoblocco

**6 VISE TOWER RIGIDITY**

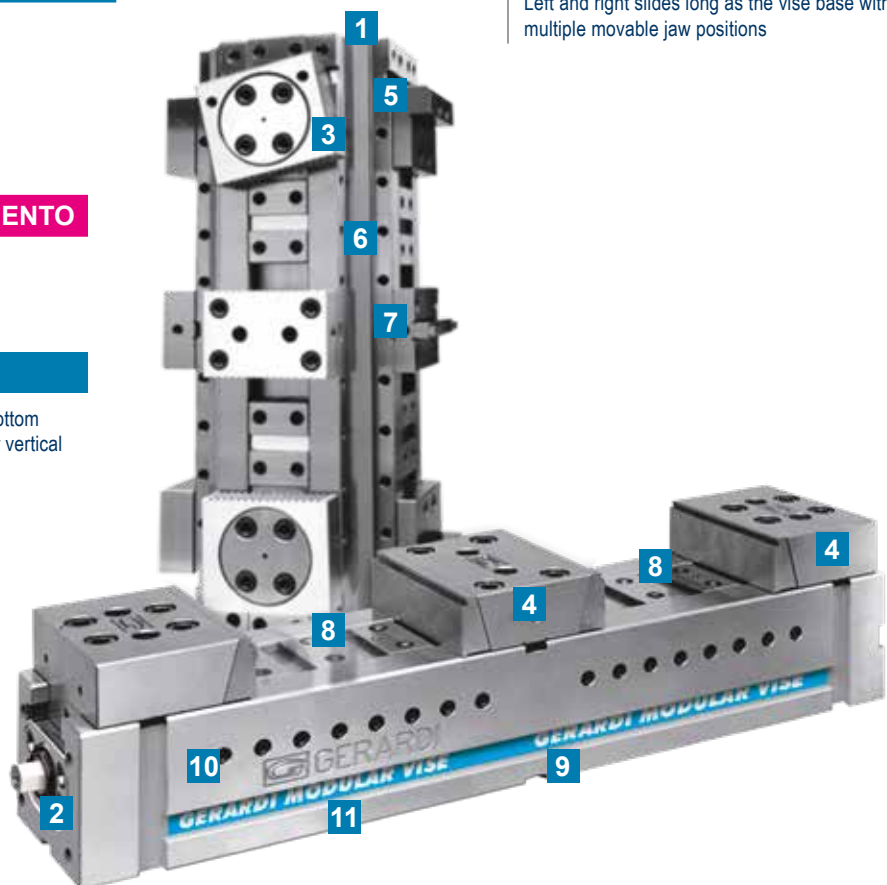
Solid vise tower

**8 SLITTE MORSA**

Slitte destre e sinistre lunghe quanto il corpo base con più chiavette per ganasce mobili

**8 VISE SLIDES**

Left and right slides long as the vise base with multiple movable jaw positions


**11 RIGIDITÀ MORSA**

Base con una sezione doppia per garantire una maggiore rigidità

**11 VISE BASE RIGIDITY**

Higher vise base in order to guarantee a better rigidity

# TRE MORSE IN UNA THREE VISES IN ONE

**3 MORSE IN  
VISES IN 1**

**Acquista il modulo base universale. Una soluzione aperta per il lavoro di oggi pensando a quello di domani !**  
**Buy the base body. A Versatile solution for present and future machining !**

**CORPO BASE Art.855**

**BASE BODY Art.855**

Modulo base universale  
**CENTINAIA DI GANASCE DISPONIBILI !!**

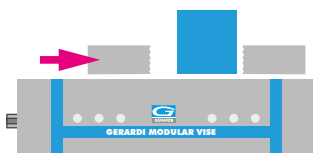
Universal vise body module  
**HUNDREDS OF JAWS AVAILABLE !!**



Ganascia fissa  
Fixed jaw

**SERRAGGI SINGOLI**

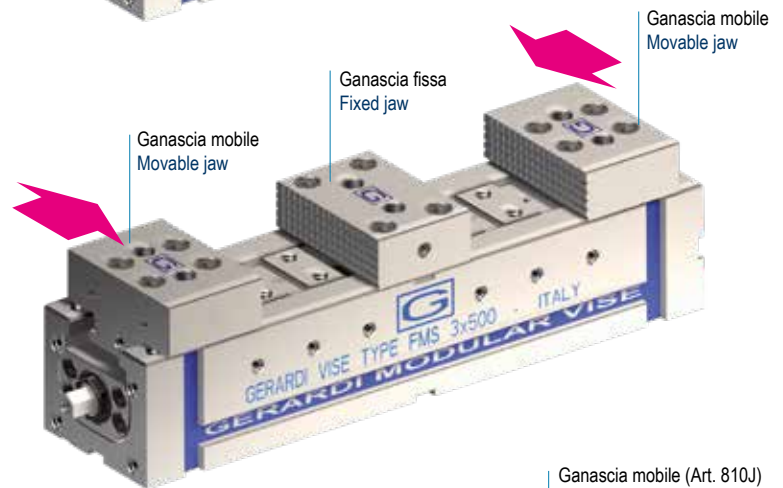
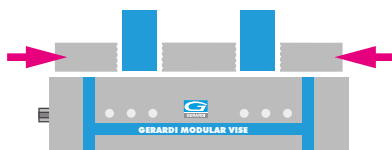
**SINGLE CLAMPING**



Ganascia mobile  
Movable jaw

**SERRAGGI DOPPI**

**DOUBLE CLAMPING**



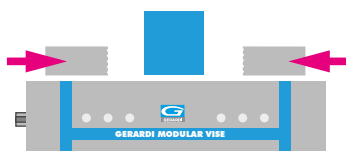
Ganascia mobile  
Movable jaw

Ganascia fissa  
Fixed jaw

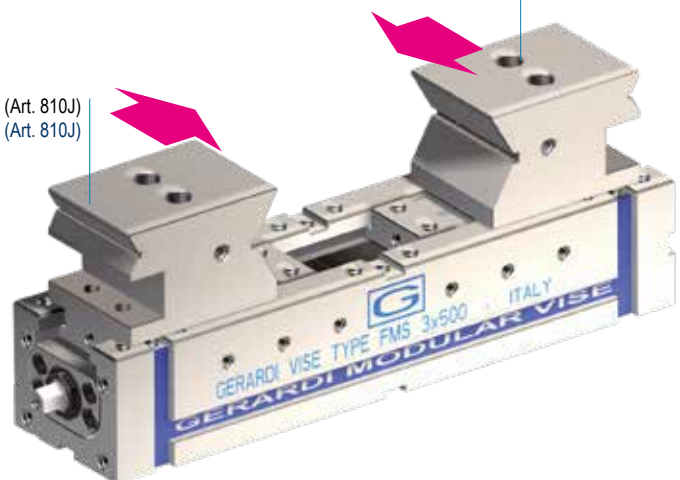
Ganascia mobile  
Movable jaw

**AUTOCENTRANTE**

**SELF-CENTERING**

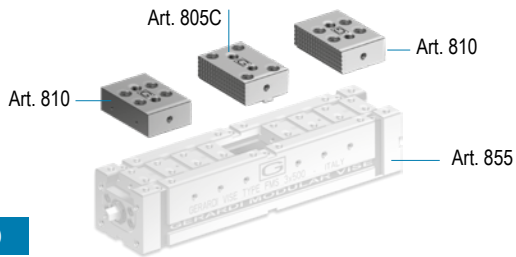
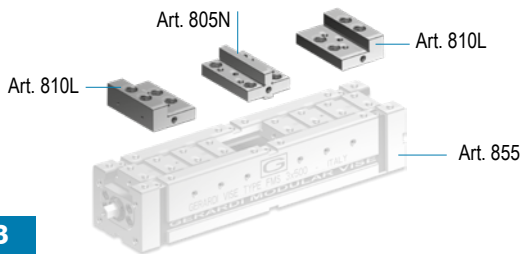
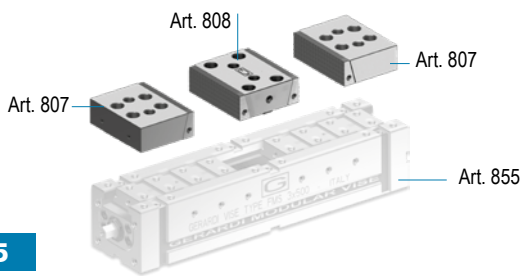
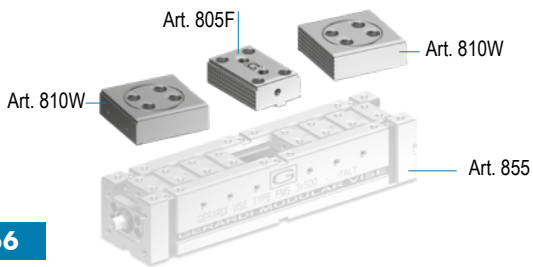
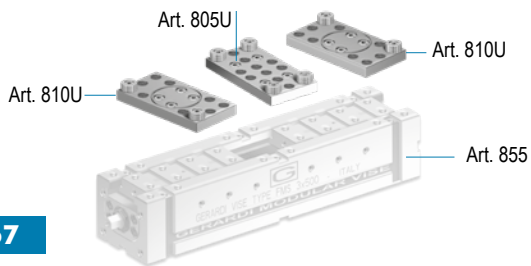
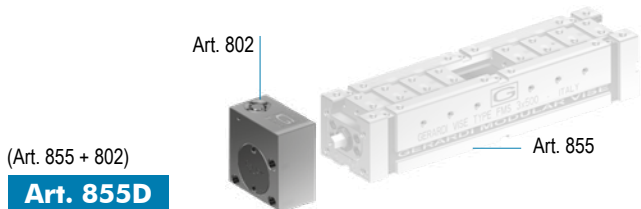


Ganascia mobile (Art. 810J)  
Movable jaw (Art. 810J)

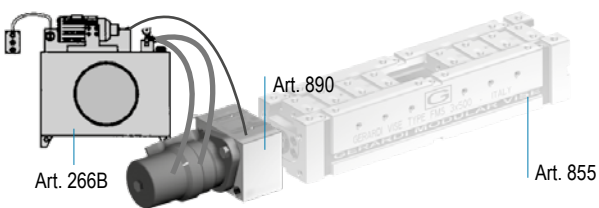


Ganascia mobile (Art. 810J)  
Movable jaw (Art. 810J)

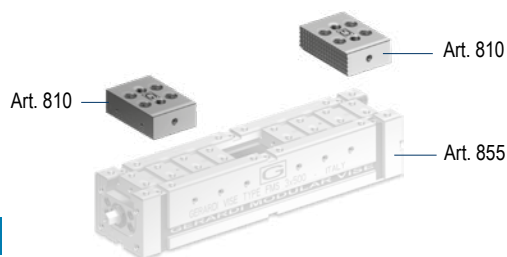
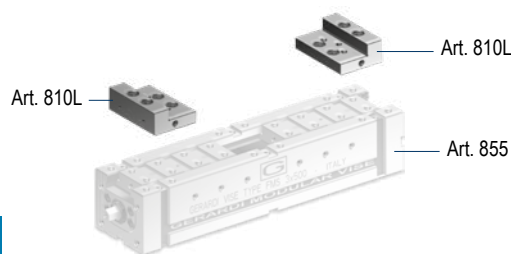
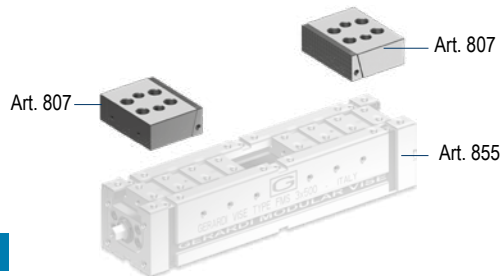
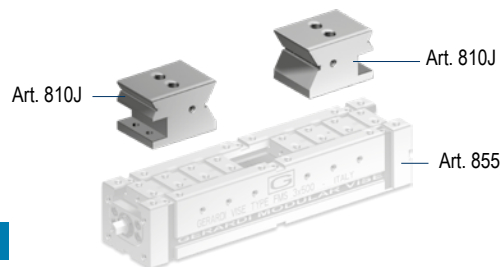
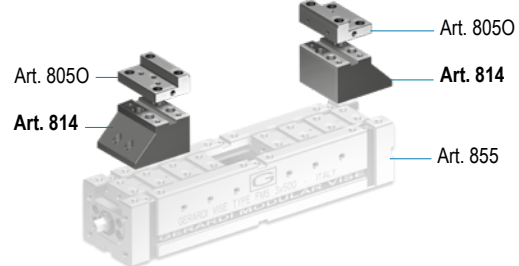
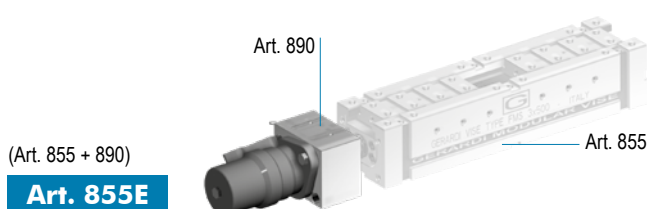
5

**VERSIONI PER BLOCCAGGI DOPPI**  
**DOUBLE CLAMPING CONFIGURATION**

**Art. 860**

**Art. 863**

**Art. 865**

**Art. 866**

**Art. 867**


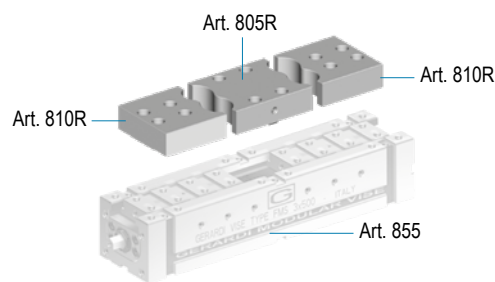
(Art. 855 + 802)

**Art. 855D**

**Art. 855F**

(Art. 855 + 890 + 266B)

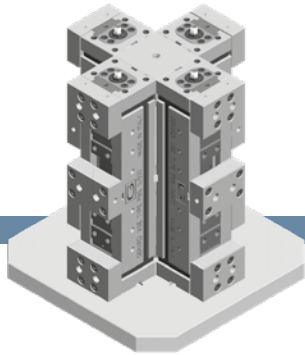
**VERSIONI AUTOCENTRANTI**  
**SELF-CENTERING TYPE**

**Art. 860**

**Art. 863**

**Art. 865**

**Art. 870**

**Art. 868**


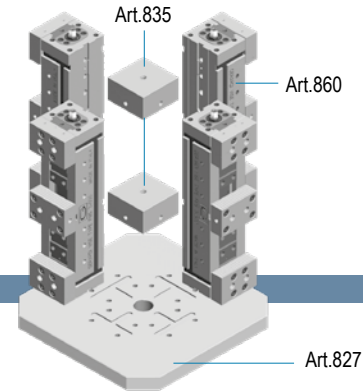
(Art. 855 + 890)

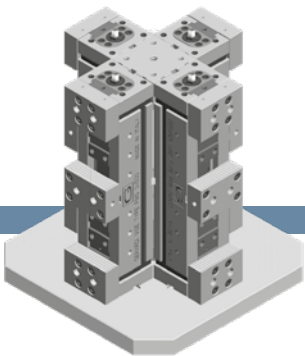
**Art. 855E**


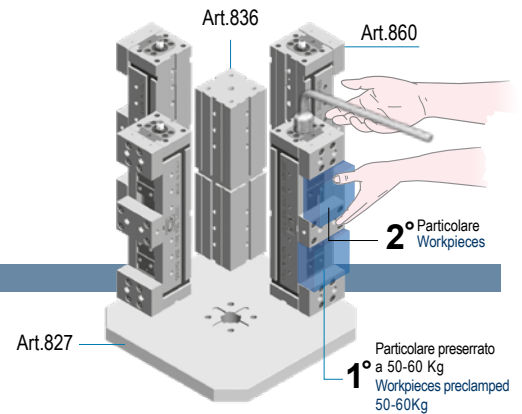
# CUBI DI MORSE MONTATI A CROCE O DORSO A DORSO

## VICE TOWERS CROSS OR BACK TO BACK MOUNTED

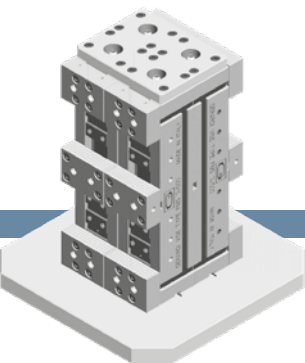
**Art.850P** (Pag - Page 5.61)

**N° 4 MORSE FMS**

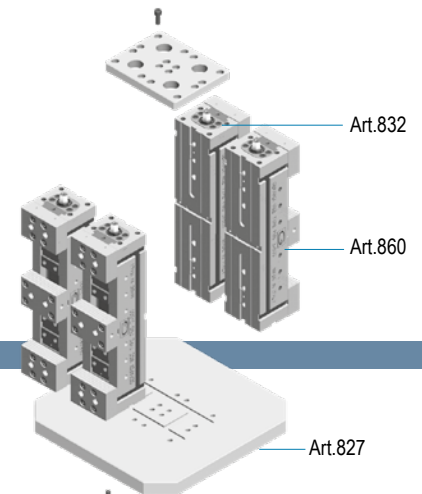
 montate a croce su piastra base (Art. 827)  
 con distanziali (Art. 835)

**N° 4 FMS VISES**

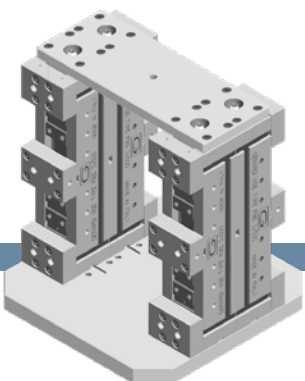
 cross-mounted on base plate (Art. 827)  
 with spacers (Art. 835)

**N° 4 MORSE FMS**

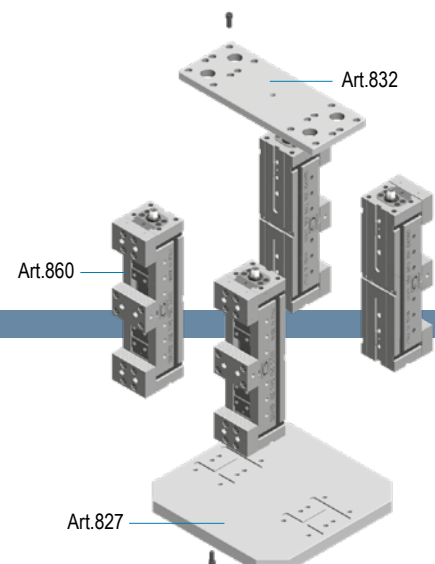
 montate a croce su piastra base (Art. 827)  
 con supporto centrale (Art.836)

**N° 4 FMS VISES**

 cross-mounted on base plate (Art.827)  
 with center support (Art.836)

**MECCANISMO TERZA MANO INCLUSO**  
**THIRD HAND DEVICE INCLUDED**

**N° 4 MORSE FMS**

 montate dorso a dorso, fianco a fianco, su piastra base  
 (Art. 827) con piastra di collegamento (Art. 832)

**N° 4 FMS VISES**

 cross-mounted back-to-back, side by side, on base  
 plate (Art. 827) with connecting plate (Art. 832)

**N° 4 MORSE FMS**

 montate dorso a dorso, su piastra base  
 (Art. 827) con piastra di collegamento (Art. 832)

**N° 4 FMS VISES**

 cross-mounted back-to-back, on base plate  
 (Art. 827) with connecting plate (Art. 832)

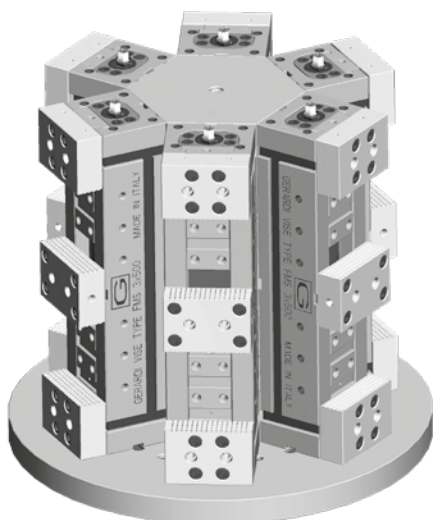
 Montaggio ed allineamento morsa con distanziali, supporto centrale o piastra di collegamento  
 Vise and alignment mounted with spacers, center support or connecting plate



# CUBI DI MORSE MONTATI VERTICALMENTE

## WISE TOWERS VERTICALLY ASSEMBLED

**Art.850P** (Pag - Page 5.70)

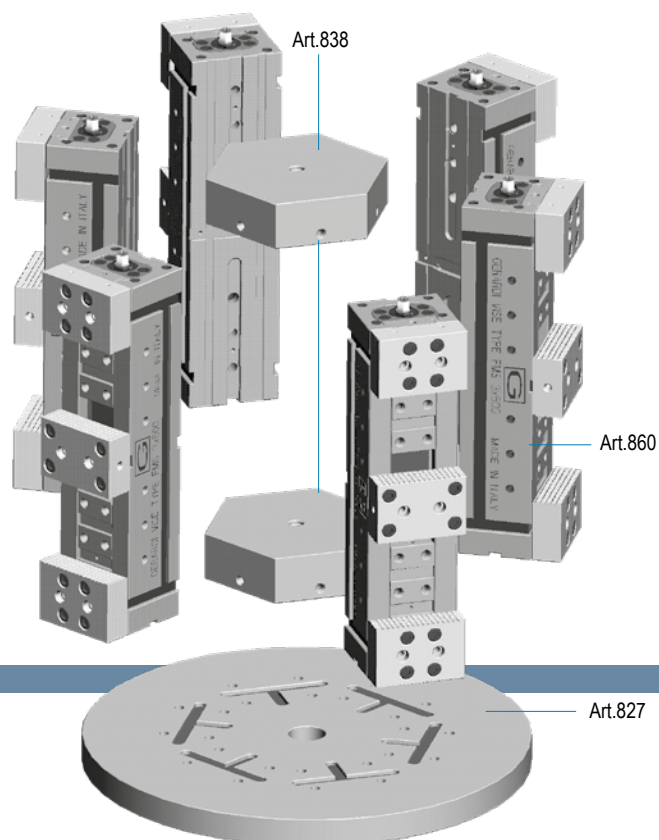


### N° 6 morse FMS

montate verticalmente su piastra base (Art. 827) con distanziali esagonali (Art. 838)

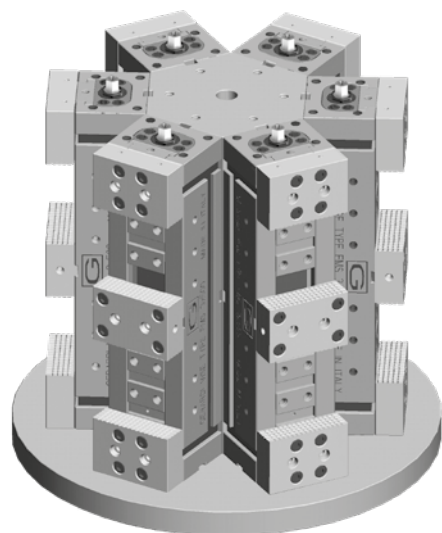
### N° 6 FMS vises

vises vertically mounted on base plate (Art. 827) with exagon spacer (Art. 838)



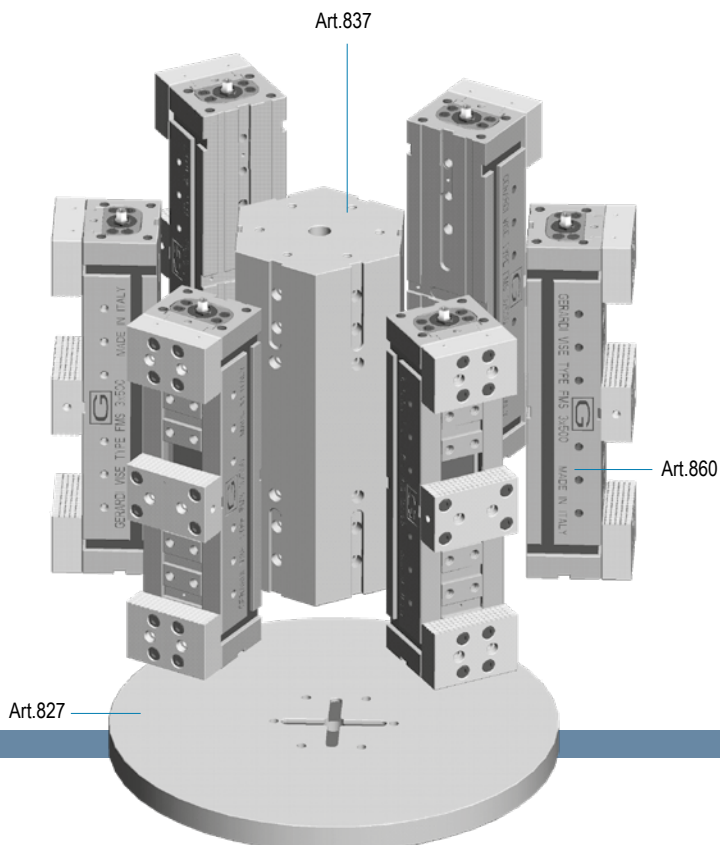
### MECCANISMO TERZA MANO INCLUSO

### THIRD HAND DEVICE INCLUDED



**N° 6 morse FMS** montate verticalmente su piastra base (Art. 827) con supporto centrale (Art. 837)

**N° 6 FMS vises** vertically mounted on base plate (Art. 827) with exagon center support (Art. 837)



Montaggio ed allineamento morse con distanziali, supporto centrale o piastra di collegamento .  
 Vise and alignment mounted with spacers, center support or connecting plate

Tipo (grandezza) morsa / Vise type (size)	kN	1 25 kN		2 25 kN			3 30 kN		
Apertura massima fra le slitte / Maximum opening between slides	A	56	68	96	116	136	156	136	136
	C	70		90			100		
	D	200 + 32	300 + 32	300	400	500	600	400	500
	E	249	349	320	420	520	620	425	525
	G	75		95			125		
	R	74		94			124		
	S	69		89			99		
	T	72	116	102	142	182	222	132	182
	Y	277	377	360	460	560	660	470	570
	X	389	483	537	637	737	837	637	737
	kg	7	10	18	25	32	39	40	45
	Cod.	5.85.51200	5.85.51300	5.85.52300	5.85.52400	5.85.52500	5.85.52600	5.85.53400	5.85.53500

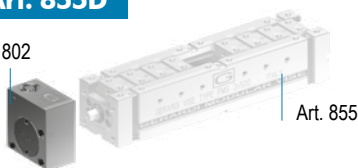
**Art. 855**


Modulo base universale

**CENTINAIA DI GANASCE DISPONIBILI !!**

 Universal vise body module  
**HUNDREDS OF JAWS AVAILABLE !!**
**Art. 855D**

Art. 802



Art. 855

(Art. 855 + 802) Morsa + moltiplicatore di coppia / Vise + torque multiplier

Cod. 5.85.5D120 5.85.5D130 5.85.5D230 5.85.5D240 5.85.5D250 5.85.5D260 5.85.5D340 5.85.5D350

Moltiplicatore di coppia con rinvio angolare - Mechanical with torque multiplier with angular transmission

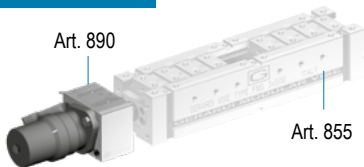
Chiave dinamometrica Art.357 (Inclusa) - Torque wrench Art.357 (Included)

Cod. 5.80.21000 5.80.22000 5.80.23000

**Art. 802**

**Art. 855E**

Art. 890



Art. 855

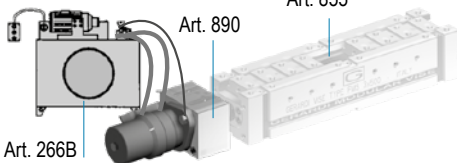
(Art. 855 + 890) Morsa + motore idraulico / Vise + hydraulic motor

Cod. 5.85.5E120 5.85.5E130 5.85.5E230 5.85.5E240 5.85.5E250 5.85.5E260 5.85.5E340 5.85.5E350

Meccanica con predisposizione elettroidraulica completa di motore, piastra, boccola e finecorsa

**Art. 855F**

Art. 855



Art. 266B

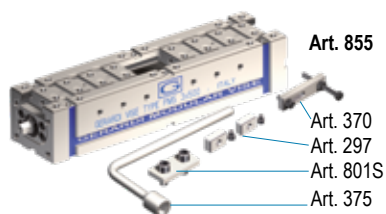
(Art. 855 + 890 + 266B) Morsa + motore idraulico + centralina / Vise + hydraulic motor + power unit

Cod. 5.85.5F120 5.85.5F130 5.85.5F230 5.85.5F240 5.85.5F250 5.85.5F260 5.85.5F340 5.85.5F350

Meccanica elettroidraulica completa di centralina idraulica apparecchiatura elettrica con pulsantiera

**Dotazione standard:**

- 2 arresti laterali Art. 370
- 1 coppia di tasselli di posizionamento precisi Art. 297
- 1 chiave a pipa Art. 375
- 1 piastrina di collegamento Art.801S



Art. 855

Art. 370

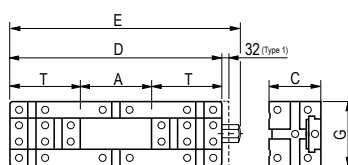
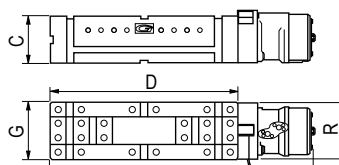
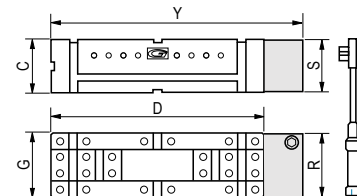
Art. 297

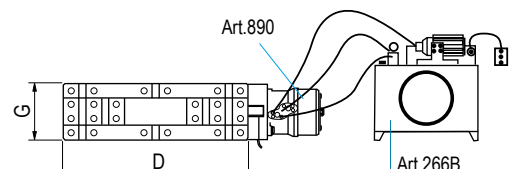
Art. 801S

Art. 375

**Standard equipment:**

- 2 workstops Art. 370
- 1 pair of precision positioning key-nuts Art. 297
- 1 box wrench Art. 375
- 1 connecting plate Art.801S


**Art. 855**

**Art. 855E**

**Art. 855D**

 Art.357 (Incluso)  
 Art.357 (Included)

**Art. 855F**

3 30 kN			4 30 kN				5 32 kN			6 32 kN		
136	136	136	188	168	148	128	152	216	252	316	280	244
	100			120				140			160	
600	700	800	500	600	700	800	600	700	800	800	900	1000
625	725	825	525	625	725	825	625	725	825	825	925	1025
	125			145				170			190	
	124			144				169			189	
	99			119				139			159	
232	282	332	156	216	276	336	174	242	274	242	310	378
670	770	870	570	670	770	870	-	-	-	-	-	-
837	937	1037	737	837	937	1037	837	937	1037	1037	1137	1237
50	55	60	66	72	80	88	115	125	135	170	190	210
5.85.53600	5.85.53700	5.85.53800	5.85.54500	5.85.54600	5.85.54700	5.85.54800	5.85.55600	5.85.55700	5.85.55800	5.85.56800	5.85.56900	5.85.56100

**Art. 855D**

(Art. 855 + 802) Morsa + moltiplicatore di coppia / Vise + torque multiplier

5.85.5D360	5.85.5D370	5.85.5D380	5.85.5D450	5.85.5D460	5.85.5D470	5.85.5D480	5.85.5D560	5.85.5D570	5.85.5D580	5.85.5D680	5.85.5D690	5.85.5D610
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**Art. 802**

Moltiplicatore di coppia con rinvio angolare - Mechanical with torque multiplier with angular transmission

5.80.23000

5.80.24000

5.80.25000

5.80.26000

**Art. 855E**

(Art. 855 + 890) Morsa + motore idraulico / Vise + hydraulic motor

5.85.5E360	5.85.5E370	5.85.5E380	5.85.5E450	5.85.5E460	5.85.5E470	5.85.5E480	5.85.5E560	5.85.5E570	5.85.5E580	5.85.5E680	5.85.5E690	5.85.5E610
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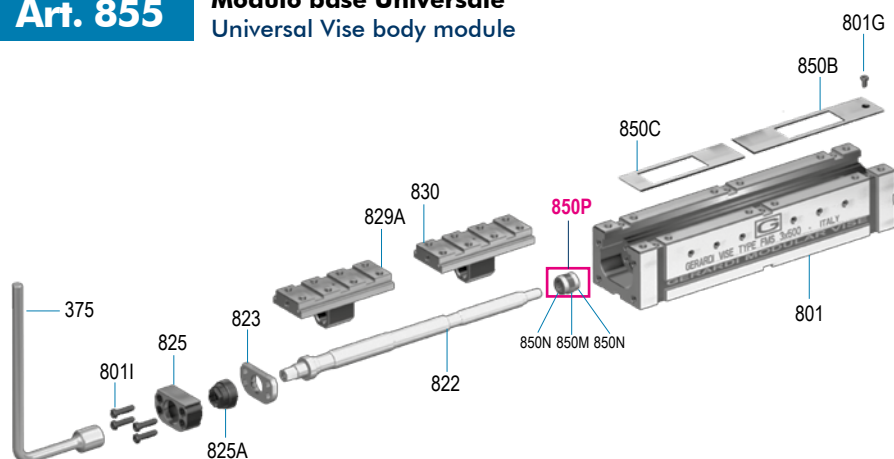
Mechanical with prepared hydraulic connection complete with motor plate, bushing and proximity switch

**Art. 855F**

(Art. 855 + 890 + 266B) Morsa + motore idraulico + centralina / Vise + hydraulic motor + power unit

5.85.5F360	5.85.5F370	5.85.5F380	5.85.5F450	5.85.5F460	5.85.5F470	5.85.5F480	5.85.5F560	5.85.5F570	5.85.5F580	5.85.5F680	5.85.5F690	5.85.5F610
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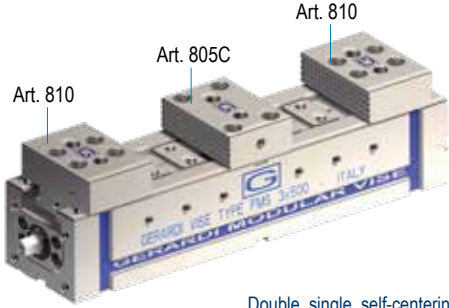
Mechanical with elettrohydraulic power-pack ready to work

**Art. 855**
**Modulo base Universale**  
 Universal Vise body module


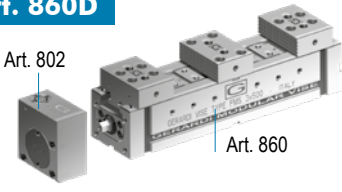
Art.	Pag.
<b>375</b>	4.31
<b>801</b>	5.46
<b>801G</b>	5.61
<b>8011</b>	5.61
<b>822</b>	5.52
<b>823</b>	5.59
<b>825</b>	5.59
<b>825A</b>	5.61
<b>829A</b>	5.50
<b>830</b>	5.50
<b>850B</b>	5.61

Art.	Pag.
<b>850C</b>	5.61
<b>850P</b>	5.61
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-

Tipo (grandezza) morsa / Vise type (size)	kN	1		2				3	
		25 kN		25 kN				30 kN	
Apertura massima / Maximum opening	A	2 x 16	2 x 66	2 x 54	2 x 104	2 x 154	2 x 204	2 x 74	2 x 124
<b>Art. 860</b> Morsa FMS doppia, singola, autocentrante con ganasce zigrinate	B	25		30				40	
	C	70		90				100	
	D	232	332	300	400	500	600	400	500
	E	249	349	320	420	520	620	425	525
	G	75		95				125	
	J	56		64				84	
	W	74		94				124	
	kg	9	12	22	29	35	42	44	49
	Cod.	5.86.01200	5.86.01300	5.86.02300	5.86.02400	5.86.02500	5.86.02600	5.86.03400	5.86.03500



Double, single, self-centering FMS vise with serrated jaws

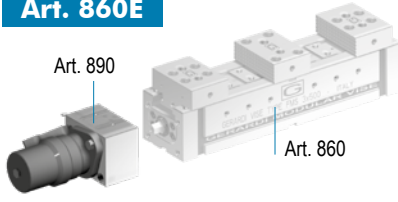
**Art. 860D**


(Art. 860 + 802) Morsa + moltiplicatore di coppia / Vise + torque multiplier

Cod.	5.86.0D120	5.86.0D130	5.86.0D230	5.86.0D240	5.86.0D250	5.86.0D260	5.86.0D340	5.86.0D350
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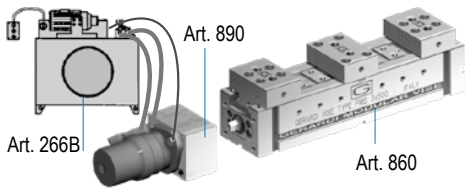
Moltiplicatore di coppia con rinvio angolare - Mechanical with torque multiplier with angular transmission

Cod.	5.80.21000	5.80.22000	5.80.23000
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**Art. 860E**


(Art. 860 + 890) Morsa + motore idraulico / Vise + hydraulic motor

Cod.	5.86.0E120	5.86.0E130	5.86.0E230	5.86.0E240	5.86.0E250	5.86.0E260	5.86.0E340	5.86.0E350
------	------------	------------	------------	------------	------------	------------	------------	------------

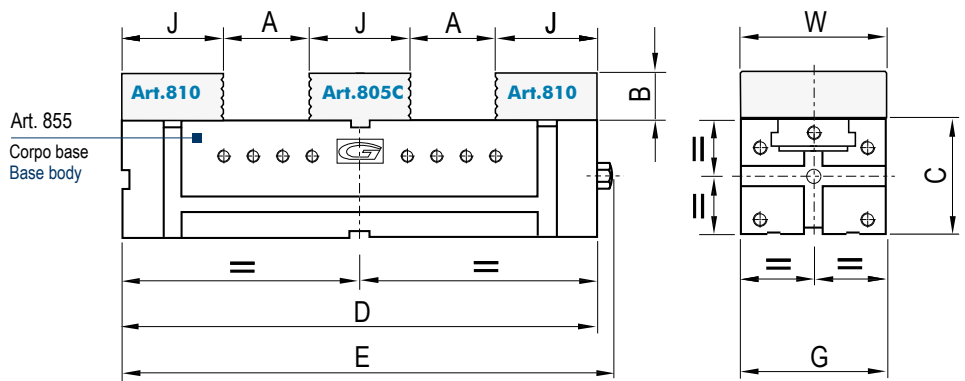
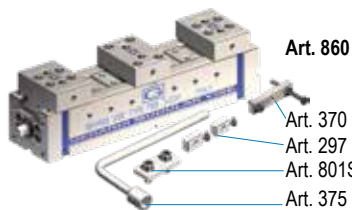
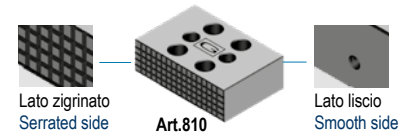
**Art. 860F**


(Art. 860 + 890 + 266B) Morsa + motore idraulico + centralina / Vise + hydraulic motor + power unit

Cod.	5.86.0F120	5.86.0F130	5.86.0F230	5.86.0F240	5.86.0F250	5.86.0F260	5.86.0F340	5.86.0F350
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**Dotazione standard:**

- 2 arresti laterali Art. 370
- 1 coppia di tasselli di posizionamento precisi Art. 297
- 1 chiave a pipa Art. 375
- 1 piastrina di collegamento Art.801S


**Standard equipment:**

- 2 workstops Art. 370
- 1 pair of precision positioning key-nuts Art. 297
- 1 box wrench Art. 375
- 1 connecting plate Art.801S

3 30 kN			4 30 kN				5 32 kN			6 32 kN		
2 x 174	2 x 224	2 x 274	2 x 103	2 x 153	2 x 203	2 x 253	2 x 138	2 x 188	2 x 238	2 x 238	2 x 288	2 x 338
40			50				60			60		
100			120				140			160		
600	700	800	500	600	700	800	600	700	800	800	900	1000
625	725	825	525	625	725	825	625	725	825	825	925	1025
125			145				170			190		
84			98				108			108		
124			144				169			189		
54	59	64	71	79	88	96	130	140	150	210	230	250
5.86.03600	5.86.03700	5.86.03800	5.86.04500	5.86.04600	5.86.04700	5.86.04800	5.86.05600	5.86.05700	5.86.05800	5.86.06800	5.86.06900	5.86.06100

**Art. 860D** (Art. 860 + 802) Morsa + moltiplicatore di coppia / Vise + torque multiplier

5.86.0D360	5.86.0D370	5.86.0D380	5.86.0D450	5.86.0D460	5.86.0D470	5.86.0D480	5.86.0D560	5.86.0D570	5.86.0D580	5.86.0D680	5.86.0D690	5.86.0D610
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**Art. 802** Moltiplicatore di coppia con rinvio angolare - Mechanical with torque multiplier with angular transmission

5.80.23000	5.80.24000	5.80.25000	5.80.26000
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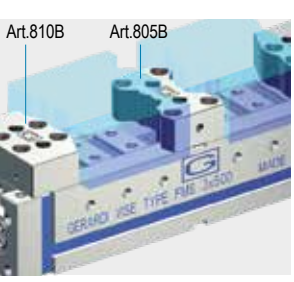
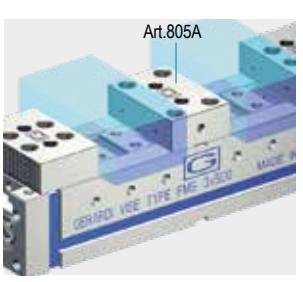
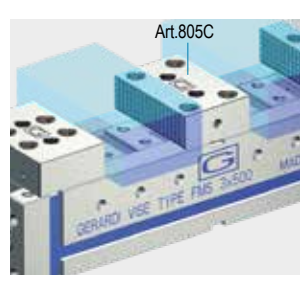
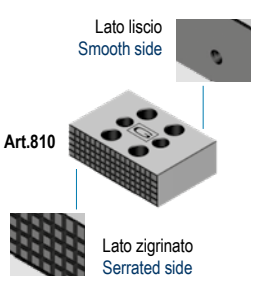
**Art. 860E** (Art. 860 + 890) Morsa + motore idraulico / Vise + hydraulic motor

5.86.0E360	5.86.0E370	5.86.0E380	5.86.0E450	5.86.0E460	5.86.0E470	5.86.0E480	5.86.0E560	5.86.0E570	5.86.0E580	5.86.0E680	5.86.0E690	5.86.0E610
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**Art. 860F** (Art. 860 + 890 + 266B) Morsa + motore idraulico + centralina / Vise + hydraulic motor + power unit

5.86.0F360	5.86.0F370	5.86.0F380	5.86.0F450	5.86.0F460	5.86.0F470	5.86.0F480	5.86.0F560	5.86.0F570	5.86.0F580	5.86.0F680	5.86.0F690	5.86.0F610
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**Art. 860** Esempi applicativi ganasce:  
 Jaw application examples:



Art.	Pag.
<b>810</b>	5.56
<b>805C</b>	5.54
<b>805A</b>	5.54
<b>805B</b>	5.54
<b>810B</b>	5.56

Ganascia Mobile reversibile  
 Reversible movable jaw

Ganascia Zigrinata Art.805C  
 Serrated Jaw Art.805C

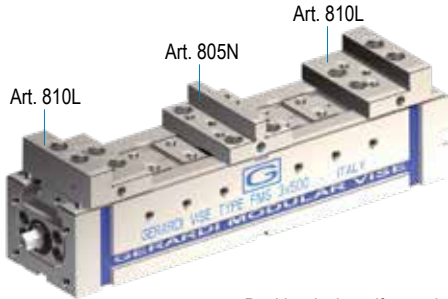
Ganascia Liscia Art.805A  
 Smooth Jaw Art.805A

Ganacce Lavorabili Art.805B + Art.810B  
 Soft Jaws Art.805B + Art.810B

Tipo (grandezza) morsa / Vise type (size)	kN	1		2				3	
		25 kN		25 kN				30 kN	
Apertura massima / Maximum opening	A	2 x 60	2 x 110	2 x 118	2 x 168	2 x 218	2 x 268	2 x 162	2 x 212
<b>Art. 863</b>	B	25		30				40	
	C	70		90				100	
	D	232	332	300	400	500	600	400	500
	E	249	349	320	420	520	620	425	525
	G	75		95				125	
	J	56		64				84	
	J1	22		24				30	
	J2	16		16				16	
	W	74		94				124	
	kg	8	11	20	27	33	40	40	45
	Cod.	5.86.31200	5.86.31300	5.86.32300	5.86.32400	5.86.32500	5.86.32600	5.86.33400	5.86.33500

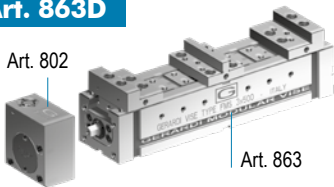


Morsa FMS doppia, singola, autocentrante con ganasce a gradino



Double, single, self-centering FMS vise with step jaws

### Art. 863D



(Art. 863 + 802) Morsa + moltiplicatore di coppia / Vise + torque multiplier

Cod.	5.86.3D120	5.86.3D130	5.86.3D230	5.86.3D240	5.86.3D250	5.86.3D260	5.86.3D340	5.86.3D350
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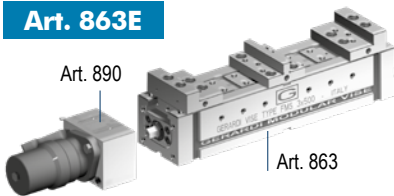
Moltiplicatore di coppia con rinvio angolare - Mechanical with torque multiplier with angular transmission

Cod.	5.80.21000	5.80.22000	5.80.23000
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### Art. 802



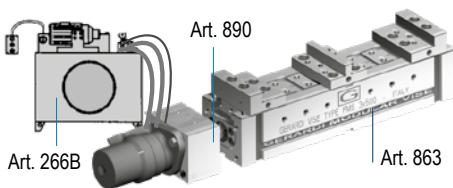
### Art. 863E



(Art. 863 + 890) Morsa + motore idraulico / Vise + hydraulic motor

Cod.	5.86.3E120	5.86.3E130	5.86.3E230	5.86.3E240	5.86.3E250	5.86.3E260	5.86.3E340	5.86.3E350
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### Art. 863F

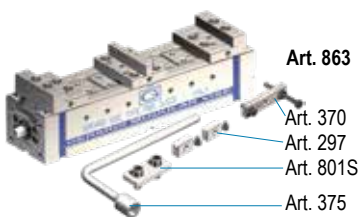


(Art. 863 + 890 + 266B) Morsa + motore idraulico + centralina / Vise + hydraulic motor + power unit

Cod.	5.86.3F120	5.86.3F130	5.86.3F230	5.86.3F240	5.86.3F250	5.86.3F260	5.86.3F340	5.86.3F350
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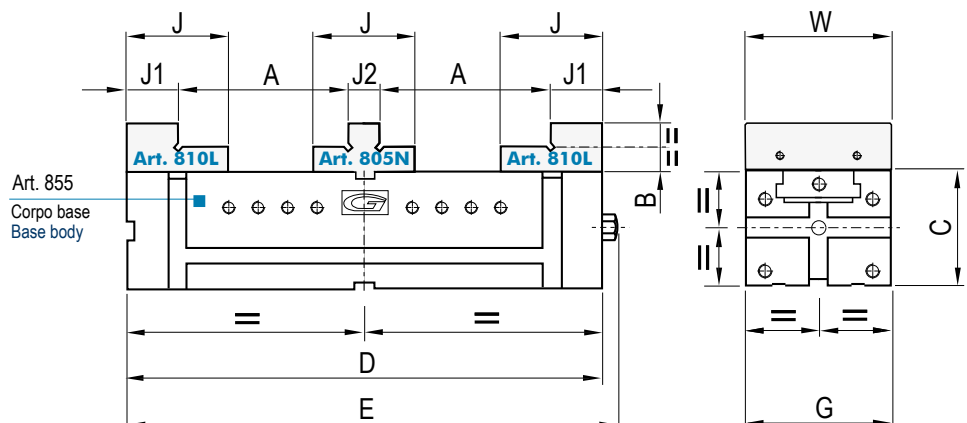
#### Dotazione standard:

- 2 arresti laterali Art. 370
- 1 coppia di tasselli di posizionamento precisi Art. 297
- 1 chiave a pipa Art. 375
- 1 piastrina di collegamento Art.801S



#### Standard equipment:

- 2 workstops Art. 370
- 1 pair of precision positioning key-nuts Art. 297
- 1 box wrench Art. 375
- 1 connecting plate Art.801S



3 30 kN			4 30 kN				5 32 kN			6 32 kN		
2 x 262	2 x 312	2 x 362	2 x 204	2 x 254	2 x 304	2 x 354	2 x 254	2 x 304	2 x 354	2 x 354	2 x 404	2 x 454
40				50				60		60		
100				120				140		160		
600	700	800	500	600	700	800	600	700	800	800	900	1000
625	725	825	525	625	725	825	625	725	825	825	925	1025
125				145				170		190		
84				98				108		108		
30				38				38		38		
16				16				16		16		
124				144				169		189		
50	55	60	68	76	85	93	124	134	144	200	220	240

5.86.33600 5.86.33700 5.86.33800 5.86.34500 5.86.34600 5.86.34700 5.86.34800 5.86.35600 5.86.35700 5.86.35800 5.86.36800 5.86.36900 5.86.36100

**Art. 863D** (Art. 863 + 802) Morsa + moltiplicatore di coppia / Vise + torque multiplier

5.86.3D360 5.86.3D370 5.86.3D380 5.86.3D450 5.86.3D460 5.86.3D470 5.86.3D480 5.86.3D560 5.86.3D570 5.86.3D580 5.86.3D680 5.86.3D690 5.86.3D610

**Art. 802** Moltiplicatore di coppia con rinvio angolare - Mechanical with torque multiplier with angular transmission

5.80.23000 5.80.24000 5.80.25000 5.80.26000

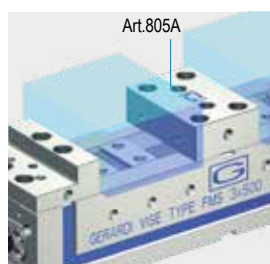
**Art. 863E** (Art. 863 + 890) Morsa + motore idraulico / Vise + hydraulic motor

5.86.3E360 5.86.3E370 5.86.3E380 5.86.3E450 5.86.3E460 5.86.3E470 5.86.3E480 5.86.3E560 5.86.3E570 5.86.3E580 5.86.3E680 5.86.3E690 5.86.3E610

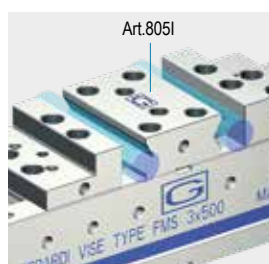
**Art. 863F** (Art. 863 + 890 + 266B) Morsa + motore idraulico + centralina / Vise + hydraulic motor + power unit

5.86.3F360 5.86.3F370 5.86.3F380 5.86.3F450 5.86.3F460 5.86.3F470 5.86.3F480 5.86.3F560 5.86.3F570 5.86.3F580 5.86.3F680 5.86.3F690 5.86.3F610

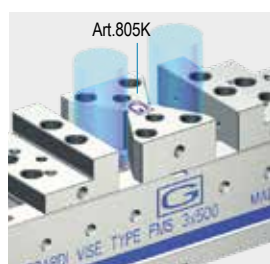
**Art. 863** Esempi applicativi ganasce: / Jaw application examples:



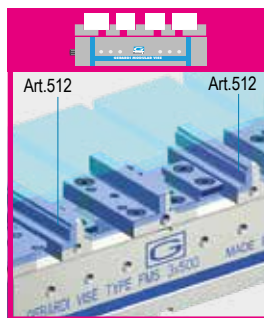
Ganasce lisce  
Smooth jaws



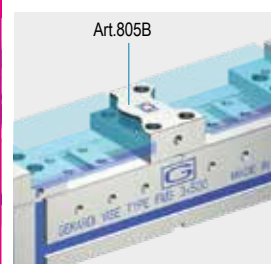
Ganasca prismatica orizzontale  
Horizontal prismatic jaws



Ganasca prismatica verticale  
Vertical prismatic jaw

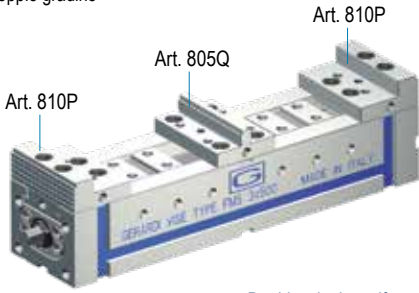


Serraggio simultaneo di 4 pezzi  
4 Workpieces simultaneous clamping



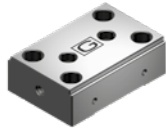
Ganasca lavorabile  
Soft jaws

Tipo (grandezza) morsa / Vise type (size)	kN	1		2				3	
		25 kN		25 kN				30 kN	
Apertura massima / Maximum opening	A	2 x 32	2 x 82	2 x 54	2 x 104	2 x 154	2 x 204	2 x 77	2 x 127
<b>Art. 864</b> Morsa FMS doppia, singola, autocentrante con ganasce a con doppio gradino	A1	2 x 84	2 x 134	2 x 118	2 x 168	2 x 218	2 x 268	2 x 162	2 x 212
	B	25		30				40	
	C	70		90				100	
	D	232	332	300	400	500	600	400	500
	E	249	349	320	420	520	620	425	525
	G	75		95				125	
	J	56		64				84	
	J1	24		24				30	
	J2	16		16				16	
	W	74		94				124	
	kg	8	11	20	27	33	40	40	45
	Cod.	5.86.41200	5.86.41300	5.86.42300	5.86.42400	5.86.42500	5.86.42600	5.86.43400	5.86.43500



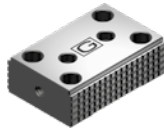
Double, single, self-centering FMS vise with double step jaws

**NEW!**
**Art. 805F**

 Ganasce fissa con doppio gradino 3x5 LISCIA  
 Fixed jaw with double 3x5 step SMOOTH


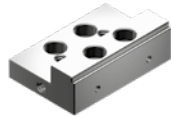
Cod.	5.80.5F100	5.80.5F200	5.80.5F300
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**Art. 805G**

 Ganasce fissa con doppio gradino 3x5 ZIGRINATA  
 Fixed jaw with double 3x5 step SERRATED


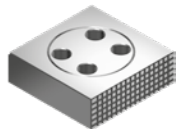
Cod.	5.80.5G100	5.80.5G200	5.80.5G300
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**Art. 8100**

 Ganasce mobile con gradino piccolo e grande  
 Movable jaw with small and large step


Cod.	5.81.00100	5.81.00200	5.81.00300
------	------------	------------	------------

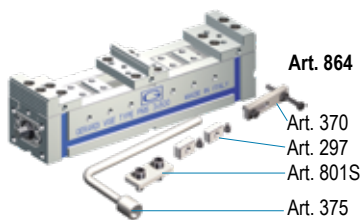
**Art. 810X**

 Ganasce mobile oscillante con gradino 3x5 zigrinata da un lato con albero a gradino (Art. 810Z)  
 Floating movable jaw with 3x5 step one side serrated with step block pin (Art. 810Z)


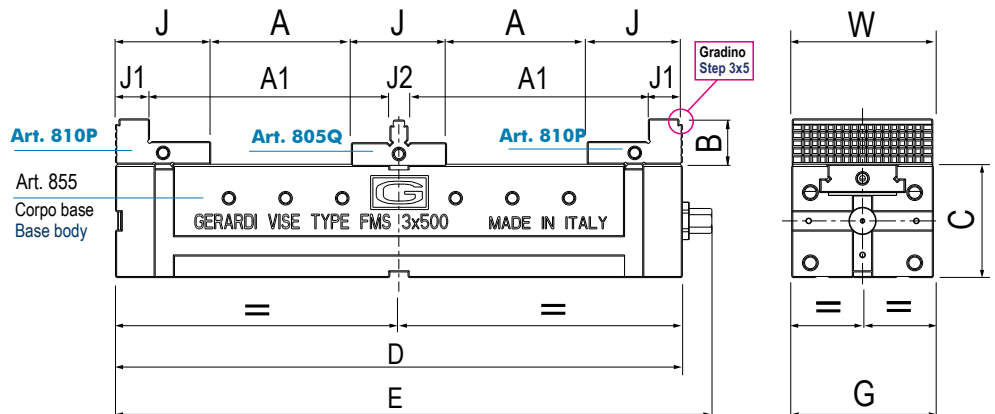
Cod.	5.81.0X100	5.81.0X200	5.81.0X300
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**Dotazione standard:**

- 2 arresti laterali Art. 370
- 1 coppia di tasselli di posizionamento precisi Art. 297
- 1 chiave a pipa Art. 375
- 1 piastrina di collegamento Art.801S


**Standard equipment:**

- 2 workstops Art. 370
- 1 pair of precision positioning key-nuts Art. 297
- 1 box wrench Art. 375
- 1 connecting plate Art.801S





3 30 kN			4 30 kN				5 32 kN			6 32 kN		
2 x 177	2 x 227	2 x 277	2 x 103	2 x 153	2 x 203	2 x 253	2 x 138	2 x 188	2 x 238	2 x 238	2 x 288	2 x 338
2 x 262	2 x 312	2 x 362	2 x 204	2 x 254	2 x 304	2 x 354	2 x 254	2 x 304	2 x 354	2 x 354	2 x 404	2 x 454
40				50				60		60		
100				120				140		160		
600	700	800	500	600	700	800	600	700	800	800	900	1000
625	725	825	525	625	725	825	625	725	825	825	925	1025
125				145				170		190		
84				98				108		108		
30				38				38		38		
16				16				16		16		
124				144				169		189		
50	55	60	68	76	85	93	124	134	144	200	220	240
5.86.43600	5.86.43700	5.86.43800	5.86.44500	5.86.44600	5.86.44700	5.86.44800	5.86.45600	5.86.45700	5.86.45800	5.86.46800	5.86.46900	5.86.46100

**Art. 805F**

5.80.5F300

5.80.5F400

5.80.5F500

5.80.5F300

**Art. 805G**

5.80.5G300

5.80.5G400

5.80.5G500

5.80.5G600

**Art. 810O**

5.81.0O300

5.81.0O400

5.81.0O500

5.81.0O600

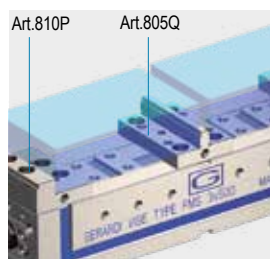
**Art. 810X**

5.81.0X300

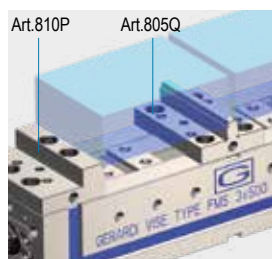
5.81.0X400

5.81.0X500

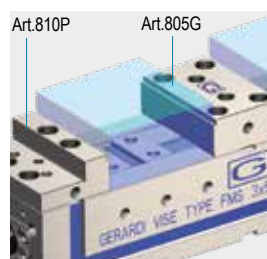
5.81.0X600

**Art. 864**
**Esempi applicativi ganasce a doppio gradino:**  
 Double step jaw application examples:


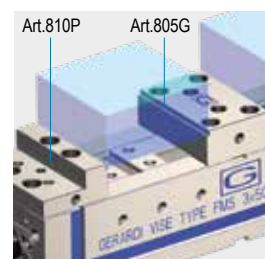
Utilizzo del gradino standard per alzare il particolare rispetto alla base  
 Use the main step for raising the workpiece



Per utilizzare il 2° gradino (3x5) ruotare le ganasce mobili di 180°  
 In order to use the second 3x5mm step turn the movable jaw 180°

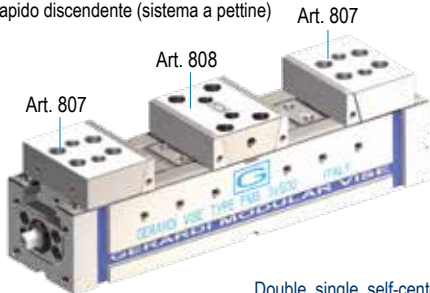


Per sfruttare il lato zigrinato delle ganasce mobili Art.810P sostituisci la ganascia fissa con l'Art.805G  
 To exploit the serrated side of the movable jaws Art.810P, change the fixed jaw with Art.805G



Tipo (grandezza) morsa / Vise type (size)	kN	1		2			3	
		25 kN		25 kN			30 kN	
Apertura massima / Maximum opening	A	2 x 52	2 x 30	2 x 80	2 x 130	2 x 180	2 x 46	2 x 96
<b>Art. 865</b> Morsa FMS doppia, singola, autocentrante con ganasce a cambio rapido discendente (sistema a pettine) Double, single, self-centering FMS vise with quick change pull down jaws (comb system)	B	25		30			40	
	C	70		90			100	
	D	332	300	400	500	600	400	500
	E	349	320	420	520	620	425	525
	G	75		95			125	
	J	63		76			98	
	J1	70		88			111	
	W	74		94			124	
	kg	12	23	30	36	43	46	51
	Cod.	5.86.51300	5.86.52300	5.86.52400	5.86.52500	5.86.52600	5.86.53400	5.86.53500

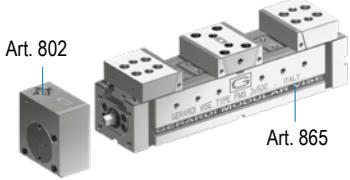
**3 MORSE IN 1 VISES IN 1**



Double, single, self-centering FMS vise with quick change pull down jaws (comb system)

### Art. 865D

(Art. 865 + 802) Morsa + moltiplicatore di coppia / Vise + torque multiplier



Cod.	5.86.5D130	5.86.5D230	5.86.5D240	5.86.5D250	5.86.5D260	5.86.5D340	5.86.5D350
------	------------	------------	------------	------------	------------	------------	------------

Moltiplicatore di coppia con rinvio angolare - Mechanical with torque multiplier with angular transmission

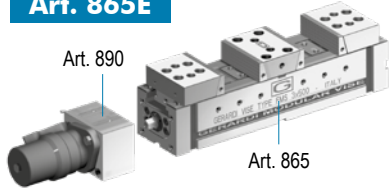
### Art. 802



Cod.	5.80.21000	5.80.22000	5.80.23000
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### Art. 865E

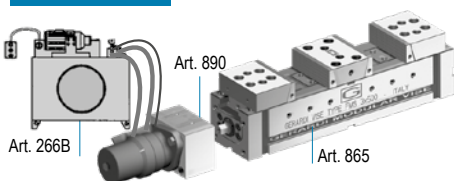
(Art. 865 + 890) Morsa + motore idraulico / Vise + hydraulic motor



Cod.	5.86.5E130	5.86.5E230	5.86.5E240	5.86.5E250	5.86.5E260	5.86.5E340	5.86.5E350
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### Art. 865F

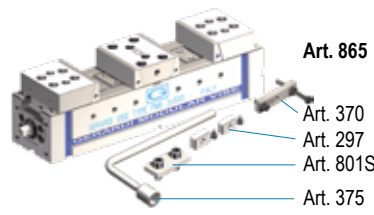
(Art. 865 + 890 + 266B) Morsa + motore idraulico + centralina / Vise + hydraulic motor + power unit



Cod.	5.86.5F130	5.86.5F230	5.86.5F240	5.86.5F250	5.86.5F260	5.86.5F340	5.86.5F350
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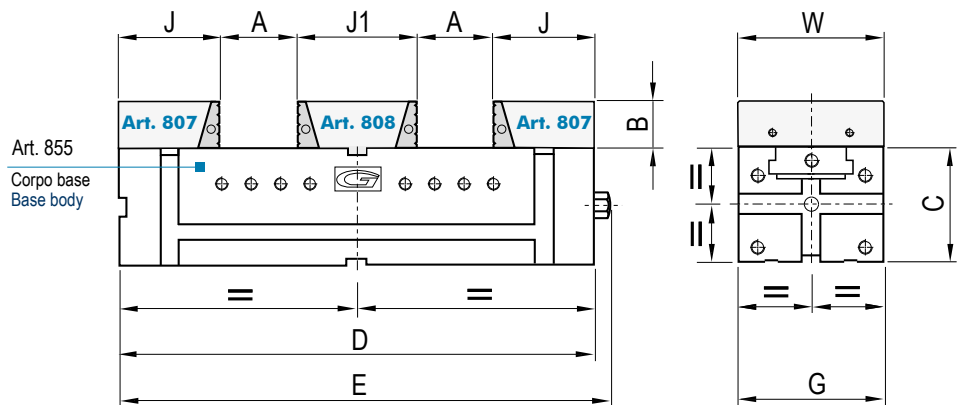
#### Dotazione standard:

- 2 arresti laterali Art. 370
- 1 coppia di tasselli di posizionamento precisi Art. 297
- 1 chiave a pipa Art. 375
- 1 piastrina di collegamento Art.801S



#### Standard equipment:

- 2 workstops Art. 370
- 1 pair of precision positioning key-nuts Art. 297
- 1 box wrench Art. 375
- 1 connecting plate Art.801S



3 30 kN			4 30 kN				5 32 kN			6 32 kN		
2 x 146	2 x 196	2 x 246	2 x 65	2 x 115	2 x 165	2 x 215	2 x 90	2 x 140	2 x 190	2 x 216	2 x 256	2 x 316
40				50				60		60		
100				120				140		160		
600	700	800	500	600	700	800	600	700	800	800	900	1000
625	725	825	525	625	725	825	625	725	825	825	925	1025
125				145				170		190		
98				117				132		119		
111				136				155		130		
124				144				169		189		
54	59	64	74	82	91	99	134	144	154	215	235	255
5.86.53600	5.86.53700	5.86.53800	5.86.54500	5.86.54600	5.86.54700	5.86.54800	5.86.55600	5.86.55700	5.86.55800	5.86.56800	5.86.56900	5.86.56100

**Art. 865D** (Art. 865 + 802) Morsa + moltiplicatore di coppia / Vise + torque multiplier

5.86.5D360 5.86.5D370 5.86.5D380 5.86.5D450 5.86.5D460 5.86.5D470 5.86.5D480 5.86.5D560 5.86.5D570 5.86.5D580 5.86.5D680 5.86.5D690 5.86.5D610

**Art. 802** Moltiplicatore di coppia con rinvio angolare - Mechanical with torque multiplier with angular transmission

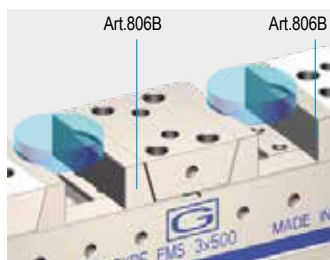
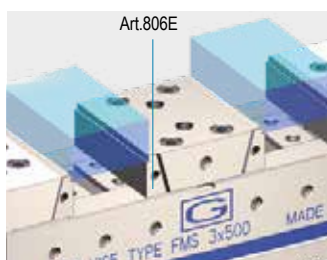
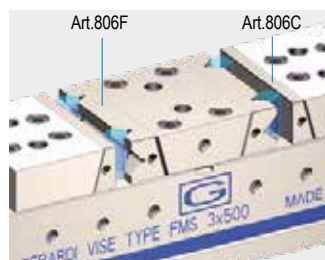
5.80.23000 5.80.24000 5.80.25000 5.80.26000

**Art. 865E** (Art. 865 + 890) Morsa + motore idraulico / Vise + hydraulic motor

5.86.5E360 5.86.5E370 5.86.5E380 5.86.5E450 5.86.5E460 5.86.5E470 5.86.5E480 5.86.5E560 5.86.5E570 5.86.5E580 5.86.5E680 5.86.5E690 5.86.5E610

**Art. 865F** (Art. 865 + 890 + 266B) Morsa + motore idraulico + centralina / Vise + hydraulic motor + power unit

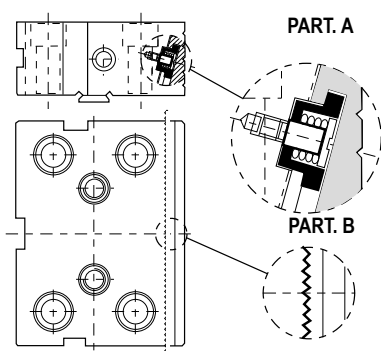
5.86.5F360 5.86.5F370 5.86.5F380 5.86.5F450 5.86.5F460 5.86.5F470 5.86.5F480 5.86.5F560 5.86.5F570 5.86.5F580 5.86.5F680 5.86.5F690 5.86.5F610

**Art. 865** Esempi applicativi piastre ganasce: Jaw plates application examples:

 Piastre ganasce Art.806B  
 Jaw plates Art.806B

 4 Piastre ganasce Art.806E  
 4 Jaw plates Art.806E

 2 piastre ganasce Art.806F + 2 Art.806C  
 2 jaw plates Art.806F + 2 Art.806C

# CORPI GANASCE FMS & PIASTRE GANASCE INTERCAMBIABILI RAPIDE

## FMS COMB JAW BODIES & QUICK INTERCHANGEABLE JAW PLATES

Tipo (grandezza) / Vise type	1	2	3	4	5	6	
<b>Art. 806*</b> Ganaschia fissa con piastra ganaschia zigrinata intercambiabile rapida Fixed jaw with quick interchangeable serrated jaw plate		Cod. 5.80.61000	5.80.62000	5.80.63000	5.80.64000	5.80.65000	5.80.66000
* Viti per fissaggio a richiesta Fixing screws on request							
<b>Art. 807*</b> Ganaschia mobile con piastra ganaschia zigrinata intercambiabile rapida Movable jaw with quick interchangeable serrated jaw plate		Cod. 5.80.71000	5.80.72000	5.80.73000	5.80.74000	5.80.75000	5.80.76000
* Viti per fissaggio a richiesta Fixing screws on request							
<b>Art. 808*</b> Ganaschia fissa doppia con piastre ganasche zigrinate intercambiabili rapide Double fixed jaw with quick interchangeable serrated jaw plate		Cod. 5.80.81000	5.80.82000	5.80.83000	5.80.84000	5.80.85000	5.80.86000
* Viti per fissaggio a richiesta Fixing screws on request							
<b>Art. 806A</b> Corpo ganaschia fissa per piastra ganaschia intercambiabile rapida Fixed jaw body for quick interchangeable jaw plate		Cod. 5.80.6A100	5.80.6A200	5.80.6A300	5.80.6A400	5.80.6A500	5.80.6A600
<b>Art. 807A</b> Corpo ganaschia mobile per piastra ganaschia intercambiabile rapida Movable jaw body for quick interchangeable jaw plate		Cod. 5.80.7A100	5.80.7A200	5.80.7A300	5.80.7A400	5.80.7A500	5.80.7A600
<b>Art. 808A</b> Corpo ganaschia fissa doppia per piastre ganasche intercambiabili rapide Double fixed jaw body for quick interchangeable jaw plate		Cod. 5.80.8A100	5.80.8A200	5.80.8A300	5.80.8A400	5.80.8A500	5.80.8A600
<b>Art. 808B</b> Corpo ganaschia fissa doppia ridotta per piastre ganasche intercambiabili rapide Double fixed jaw body narrow for quick interchangeable jaw plate		Cod. 5.80.8B100	5.80.8B200	5.80.8B300	5.80.8B400	5.80.8B500	5.80.8B600

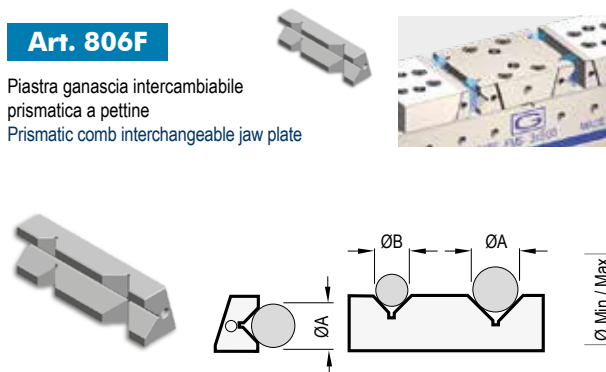


### RAPIDA SOSTITUZIONE DELLE PIASTRE GANASCE DISCENDENTI SENZA BISOGNO DI ALCUN UTENSILE

Il nuovo sistema con piastre ganasche intercambiabili, conferisce alla morsa FMS un ulteriore aumento di flessibilità dato dalla rapidità di sostituzione delle piastre ganasche e dalla precisione di riposizionamento. La rapidità di sostituzione delle piastre ganasche è resa possibile dal nuovo sistema con perno a molla (PART. A), mentre le righe prismatiche (PART. B) effettuate con mola sagomata sui piani d'appoggio rendono possibile un riposizionamento di elevata precisione. La vasta gamma di piastre ganasche intercambiabili va a soddisfare le più svariate esigenze di lavorazione.

### QUICK HAND CHANGE OF PULL-DOWN JAW PLATES - NO TOOLS NEEDED

The new system with quick interchangeable jaw plates, increase the FMS vise flexibility, and feature the quick jaw plates replacement and their high precision repositioning. The quickness of the jaw plates replacement is allowed by the new system of pin with spring (PART. A), while the prismatic grooves (PART. B), made with shaped grind wheel on the surface plates, allow a perfect repositioning. The wide range of interchangeable jaws plates can satisfy the most varied workholding needs.



Solo 2 per morsa!! Just 2 pcs each vise!!						
Cod.	5.80.6F100	5.80.6F200	5.80.6F300	5.80.6F400	5.80.6F500	5.80.6F600

Piastra ganaschia intercambiabile prismatica a pettine  
 Per serraggi autocentranti è necessario ordinare n. 2 piastrine prismatiche  
 Prismatic comb interchangeable jaw plate  
 For self-centering clamping is necessary to order n. 2 prismatic jaws

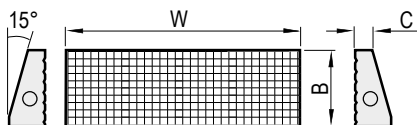
Ø Min / Max	A	B	1	2	3	4	5	6
A	6 / 16	9 / 24	13 / 38	15 / 40	15 / 42	15 / 42		
B	4 / 10	7 / 18	9 / 24	9 / 24	9 / 24	9 / 24		

Vedi dimensioni prisma pag. 5.16 / See prisma dimensions pag. 5.16

# PIASTRE GANASCE INTERCAMBIABILI RAPIDE

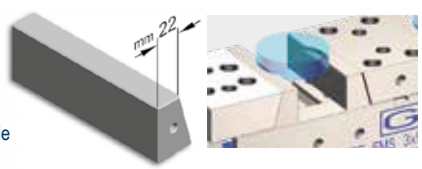
## QUICK INTERCHANGEABLE JAW PLATES

Tipo (grandezza) / Vise type	1	2	3	4	5	6
W	73	93	123	143	168	188
B	25	30	40	50	60	60
C	10	10	11	11	16	16



### Art. 806B

Piastra ganascia intercambiabile dolce a pettine  
 Soft comb interchangeable jaw plate



Cod.	5.80.6B100	5.80.6B200	5.80.6B300	5.80.6B400	5.80.6B500	5.80.6B600
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### Art. 806C

Piastra ganascia intercambiabile liscia a pettine  
 Smooth comb interchangeable jaw plate



Cod.	5.80.6C100	5.80.6C200	5.80.6C300	5.80.6C400	5.80.6C500	5.80.6C600
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### Art. 806D

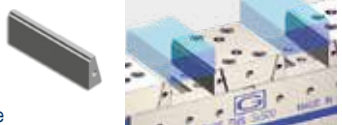
Piastra ganascia intercambiabile zigrinata a pettine  
 Serrated comb interchangeable jaw plate



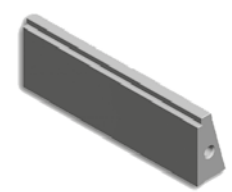
Cod.	5.80.6D100	5.80.6D200	5.80.6D300	5.80.6D400	5.80.6D500	5.80.6D600
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### Art. 806E

Piastra ganascia intercambiabile a gradino a pettine  
 Step comb interchangeable jaw plate



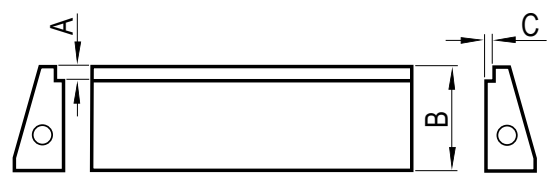
Cod.	5.80.6E100	5.80.6E200	5.80.6E300	5.80.6E400	5.80.6E500	5.80.6E600
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**KIT RISPARMIO**  
**SAVING KIT**

	Set di 8 pezzi Set of 8 pcs.		Set di 10 pezzi Set of 10 pcs.		Set di 14 pezzi Set of 14 pcs.		Set di 14 pezzi Set of 14 pcs.		Set di 14 pezzi Set of 14 pcs.	
	3	5	3	5	3	5	3	5	3	5
A	13	13	13	13	13	13	13	13	13	13
	-	-	18	18	18	18	18	18	18	18
	-	-	-	23	23	23	23	23	23	23
	-	-	-	28	28	28	28	28	28	28

Piastra ganascia intercambiabile a gradino a pettine (SET di coppie)  
 Step comb interchangeable jaw plate (SET of pair)



B	25	30	40	50	60	60
C	3	3	3	3	3	3
Cod.	5.80.6E112	5.80.6E212	5.80.6E312	5.80.6E412	5.80.6E512	5.80.6E612

### Art. 806G

Piastra ganascia intercambiabile a pettine con arresto a 90°  
 90° interchangeable comb jaw plate



**Solo 2 per morsa!! Just 2 pcs each vise!!**

Cod.	5.80.6G100	5.80.6G200	5.80.6G300	5.80.6G400	5.80.6G500	5.80.6G600
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### Art. 806H

Piastra ganascia intercambiabile bombata a pettine  
 Round comb interchangeable jaw plate



Cod.	5.80.6H100	5.80.6H200	5.80.6H300	5.80.6H400	5.80.6H500	5.80.6H600
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### Art. 806M

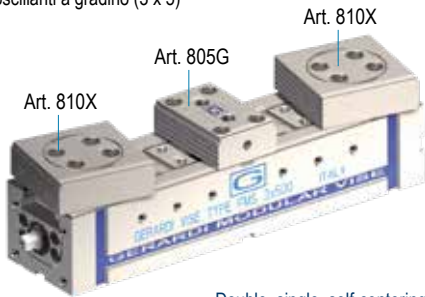
Piastra ganascia intercambiabile a pettine per angolo di 30° o 45°  
 30° or 45° angle interchangeable comb jaw plate



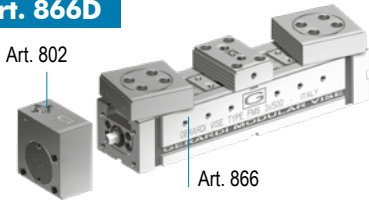
**Solo 2 per morsa!! Just 2 pcs each vise!!**

Cod.	5.80.6M100	5.80.6M200	5.80.6M300	5.80.6M400	5.80.6M500	5.80.6M600
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Tipo (grandezza) morsa / Vise type (size)	kN	1		2			3	
		25 kN		25 kN			30 kN	
Apertura massima / Maximum opening	A	2 x 52	2 x 30	2 x 80	2 x 130	2 x 180	2 x 46	2 x 96
<b>Art. 866</b> Morsa FMS doppia, singola, autocentrante con ganasce oscillanti a gradino (3 x 5) <div style="border: 1px dashed blue; padding: 2px; display: inline-block; margin-top: 5px;"> <b>3 MORSE IN VISES IN 1</b> </div>	B	25		30			40	
	C	70		90			100	
	D	332	300	400	500	600	400	500
	E	349	320	420	520	620	425	525
	G	75		95			125	
	J	63		76			98	
	J1	70		88			111	
	W	74		94			124	
	kg	12	23	30	36	43	46	51
	Cod.	5.86.61300	5.86.62300	5.86.62400	5.86.62500	5.86.62600	5.86.63400	5.86.63500



Double, single, self-centering FMS vise with floating step jaws (3 x 5)

**Art. 866D**


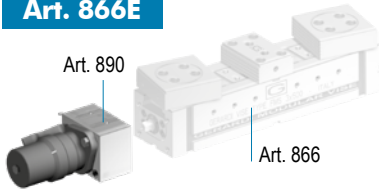
(Art. 866 + 802) Morsa + moltiplicatore di coppia / Vise + torque multiplier

Cod.	5.86.6D130	5.86.6D230	5.86.6D240	5.86.6D250	5.86.6D260	5.86.6D340	5.86.6D350
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Moltiplicatore di coppia con rinvio angolare - Mechanical with torque multiplier with angular transmission

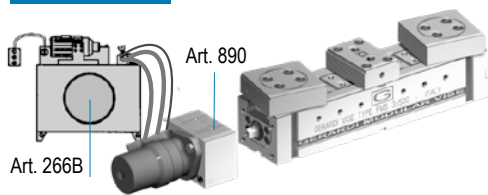
Cod.	5.80.21000	5.80.22000	5.80.23000
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**Art. 802**

**Art. 866E**


(Art. 866 + 890) Morsa + motore idraulico / Vise + hydraulic motor

Cod.	5.86.6E130	5.86.6E230	5.86.6E240	5.86.6E250	5.86.6E260	5.86.6E340	5.86.6E350
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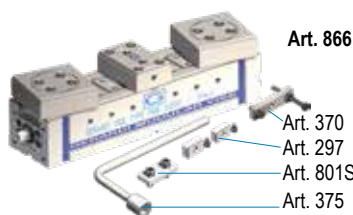
**Art. 866F**


(Art. 866 + 890 + 266B) Morsa + motore idraulico + centralina / Vise + hydraulic motor + power unit

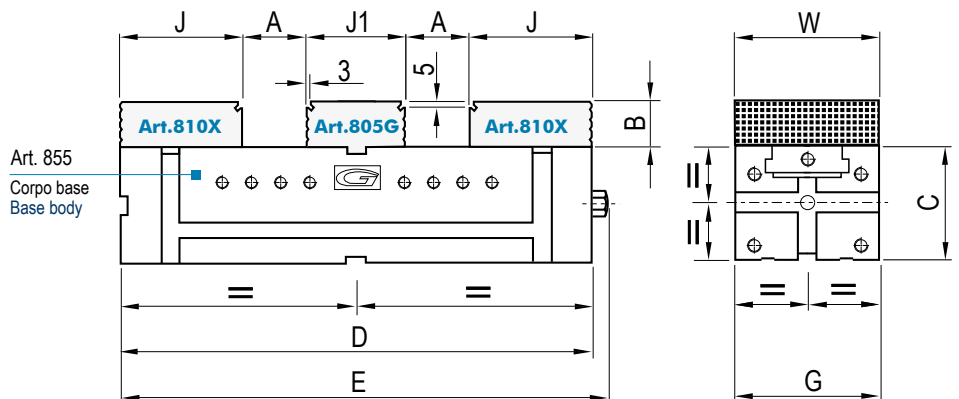
Cod.	5.86.6F130	5.86.6F230	5.86.6F240	5.86.6F250	5.86.6F260	5.86.6F340	5.86.6F350
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**Dotazione standard:**

- 2 arresti laterali Art. 370
- 1 coppia di tasselli di posizionamento precisi Art. 297
- 1 chiave a pipa Art. 375
- 1 piastrina di collegamento Art.801S


**Standard equipment:**

- 2 workstops Art. 370
- 1 pair of precision positioning key-nuts Art. 297
- 1 box wrench Art. 375
- 1 connecting plate Art.801S



3 30 kN			4 30 kN				5 32 kN			6 32 kN		
2 x 152	2 x 202	2 x 252	2 x 73	2 x 123	2 x 173	2 x 223	2 x 111	2 x 161	2 x 211	2 x 203	2 x 235	2 x 303
40		50		60		60		60		60		
100		120		140		140		140		160		
600	700	800	500	600	700	800	600	700	800	800	900	1000
625	725	825	525	625	725	825	625	725	825	825	925	1025
125		145		170		170		170		190		
106		128		135		135		135		143		
84		98		108		108		108		108		
124		144		169		169		169		189		
54	59	64	74	82	91	99	134	144	154	215	235	255
5.86.63600	5.86.63700	5.86.63800	5.86.64500	5.86.64600	5.86.64700	5.86.64800	5.86.65600	5.86.65700	5.86.65800	5.86.66800	5.86.66900	5.86.66100

**Art. 866D** (Art. 866 + 802) Morsa + moltiplicatore di coppia / Vise + torque multiplier

5.86.6D360 5.86.6D370 5.86.6D380 5.86.6D450 5.86.6D460 5.86.6D470 5.86.6D480 5.86.6D560 5.86.6D570 5.86.6D580 5.86.6D680 5.86.6D690 5.86.6D610

**Art. 802** Moltiplicatore di coppia con rinvio angolare - Mechanical with torque multiplier with angular transmission

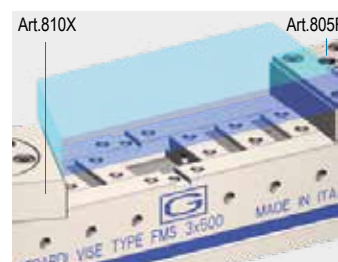
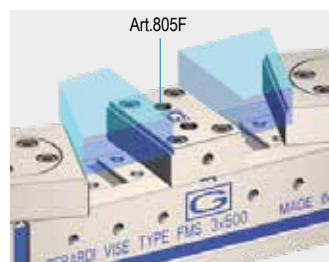
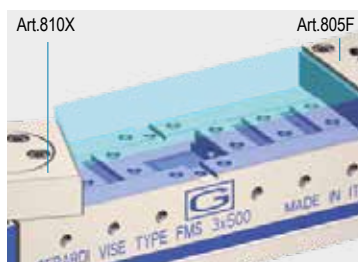
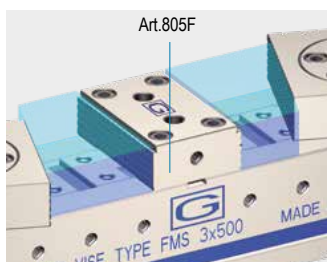
5.80.23000 5.80.24000 5.80.25000 5.80.26000

**Art. 866E** (Art. 866 + 890) Morsa + motore idraulico / Vise + hydraulic motor

5.86.6E360 5.86.6E370 5.86.6E380 5.86.6E450 5.86.6E460 5.86.6E470 5.86.6E480 5.86.6E560 5.86.6E570 5.86.6E580 5.86.6E680 5.86.6E690 5.86.6E610

**Art. 866F** (Art. 866 + 890 + 266B) Morsa + motore idraulico + centralina / Vise + hydraulic motor + power unit

5.86.6F360 5.86.6F370 5.86.6F380 5.86.6F450 5.86.6F460 5.86.6F470 5.86.6F480 5.86.6F560 5.86.6F570 5.86.6F580 5.86.6F680 5.86.6F690 5.86.6F610

**Art. 866** Esempi applicativi ganasce oscillanti:  
 Floating Jaws application examples:


Serraggio di particolari grezzi - Rough workpieces clamping

Serraggio particolari grezzi - Rough workpieces clamping

## FUNZIONAMENTO DELLE GANASCE MOBILI OSCILLANTI

### THE OPERATION OF MOVABLE JAWS

3 MORSE IN  
VISES IN 1

#### Art. 810Z

Albero a gradino per ganasce mobili oscillanti  
Step block pin for floating movable jaw

#### Art. 810W

Ganascia mobile oscillante zigrinata da un lato, con albero a gradino (Art. 810Z)  
Floating movable jaw one side serrated with step block pin (Art. 810Z)

Fig. 1 Pic. 1

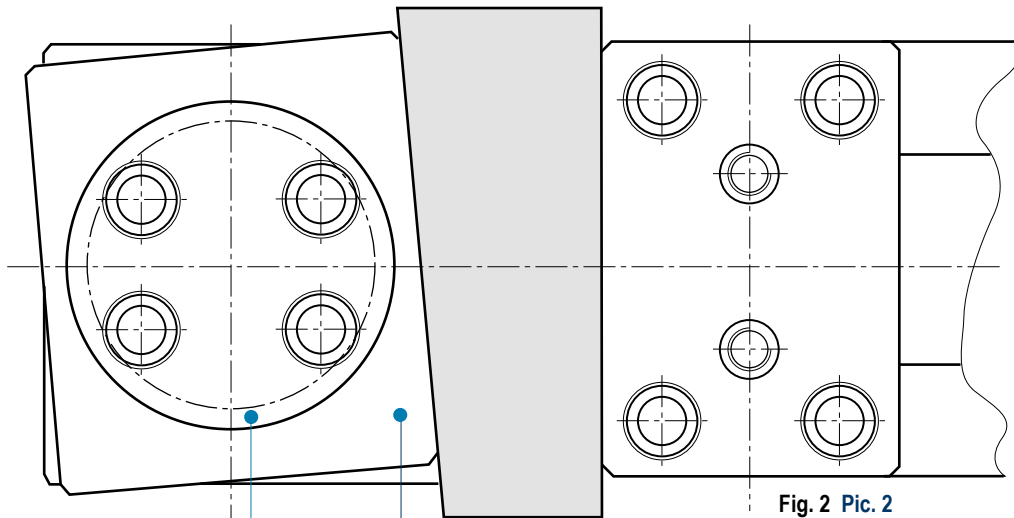
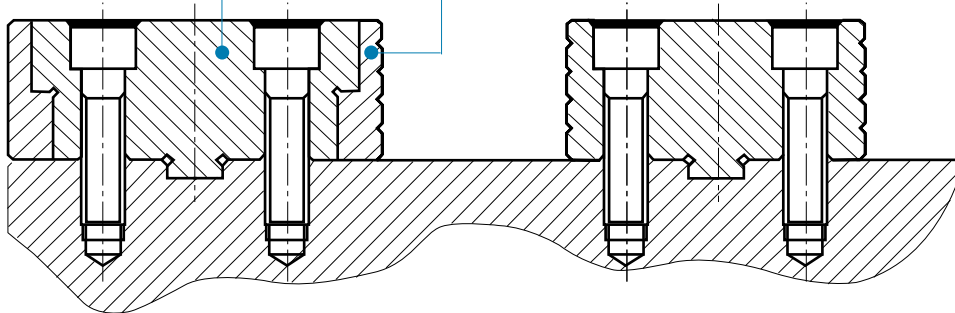


Fig. 2 Pic. 2

#### Art. 810Z

Albero a gradino per ganasce mobili oscillanti  
Step block pin for floating movable jaw

#### Art. 810W

Ganascia mobile oscillante zigrinata da un lato, con albero a gradino (Art. 810Z)  
Floating movable jaw one side serrated with step block pin (Art. 810Z)

Le ganasce mobili oscillanti consentono il serraggio di pezzi di forma irregolare i cui lati non risultino paralleli (Fig. 2). Questo è reso possibile dall'albero a gradino (Art. 810Z - Fig. 1), posto al centro della ganascia, che pur permettendo la rotazione della ganascia, ne mantiene la precisione ed evita il sollevamento del pezzo mentre viene lavorato. Il tutto a garanzia di un serraggio in piena sicurezza.

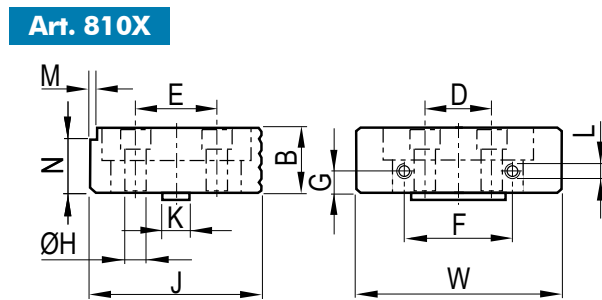
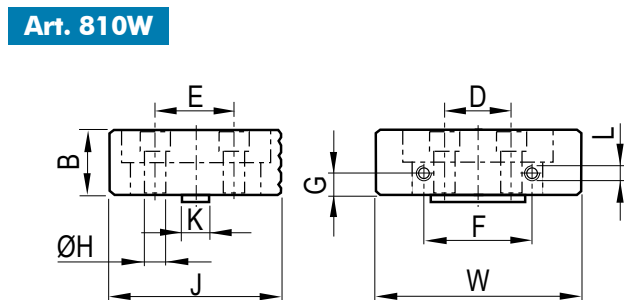
Floating movable jaws allow to clamp workpieces with irregular shapes whose sides are not parallel (Pic. 2). In fact thanks to the step block spindle (Art. 810Z - Pic. 1), positioned in the centre of the jaw body, the jaw can float and guarantee at the same time maximum precision and no tilting of the parts while being worked. The safety of the workholding is guaranteed.



# GANASCE MOBILI OSCILLANTI

## FLOATING MOVABLE JAWS

Tipo (grandezza) / Vise type	1	2	3	4	5	6
<b>Art. 810W*</b> Ganasce mobile oscillante zigrinata da un lato con albero a gradino (Art. 810Z) Floating movable jaw one side serrated with step block pin (Art. 810Z)	Cod. 5.81.0W100	5.81.0W200	5.81.0W300	5.81.0W400	5.81.0W500	5.81.0W600
<b>Art. 810X*</b> Ganasce mobile oscillante con gradino 3x5 zigrinata da un lato con albero a gradino (Art. 810Z) Floating movable jaw with 3x5 step one side serrated with step block pin (Art. 810Z)	Cod. 5.81.0X100	5.81.0X200	5.81.0X300	5.81.0X400	5.81.0X500	5.81.0X600
<b>Art. 810Y*</b> Ganasce mobile oscillante con gradino 3x5 con albero a gradino (Art. 810Z) Floating movable jaw with 3x5 step with step block pin (Art. 810Z)	Cod. 5.81.0Y100	5.81.0Y200	5.81.0Y300	5.81.0Y400	5.81.0Y500	5.81.0Y600
<b>Art. 810Z</b> Albero a gradino per ganasce mobili oscillanti Step block pin for floating movable jaw	Cod. 5.81.0Z100	5.81.0Z200	5.81.0Z300	5.81.0Z400	5.81.0Z500	5.81.0Z600
<b>Art. 810WA</b> Corpo ganasce mobile oscillante zigrinata da un lato Body floating movable jaw one side serrated	Cod. 5.81.0WA10	5.81.0WA20	5.81.0WA30	5.81.0WA40	5.81.0WA50	5.81.0WA60
<b>Art. 810XA</b> Corpo ganasce mobile oscillante con gradino 3x5 zigrinata da un lato Body floating movable jaw with 3x5 step one side serrated	Cod. 5.81.0XA10	5.81.0XA20	5.81.0XA30	5.81.0XA40	5.81.0XA50	5.81.0XA60
<b>Art. 810YA</b> Corpo ganasce mobile oscillante con gradino 3x5 Body floating movable jaw with 3x5 step	Cod. 5.81.0YA10	5.81.0YA20	5.81.0YA30	5.81.0YA40	5.81.0YA50	5.81.0YA60



Tipo (grandezza) morsa / Vise (type) size

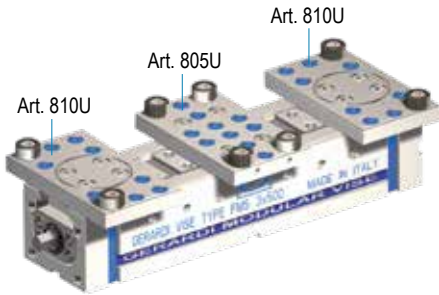
mm	1	2	3	4	5	6	Tolleranze / Tolerance
B	25	30	40	50	60		- 0,02
D	20	25	38	48	44	54	-
E	32	40	50	60	68	68	-
F	40	50		65		100	-
G		10	15	20		25	-
H	9	11	13		17	22	-
L	M5			M6			-
K				16			H7
M				5			± 0,01
N				3			± 0,02
J	72	84	106	128	135	143	- 0,02
W	74	94	124	144	169	189	-

**Tipo (grandezza) morsa / Vise type (size)**

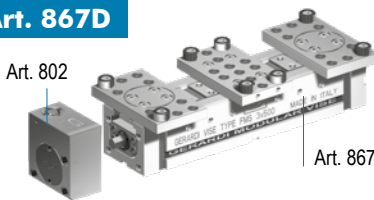
kN	1		2			3	
	25 kN		25 kN			30 kN	
A1	91	91	141	191	241	141	191
B	20		20			20	
C	70		90			100	
D	332	300	400	500	600	400	500
E	349	320	420	520	620	425	525
G	75		95			125	
J1	50		50			70	
J2	25		25			35	
Ø	30 (H = 16)		30 (H = 16)			30 (H = 16)	
W	100		120			170	
kg	11	20	27	33	40	40	45
Cod.	5.86.71300	5.86.72300	5.86.72400	5.86.72500	5.86.72600	5.86.73400	5.86.73500

**Art. 867**

Morsa FMS doppia, singola, autocentrante con ganasce oscillanti regolabili con inserti



Double, single, self-centering FMS vise with floating adjustable jaws with inserts

**Art. 867D**


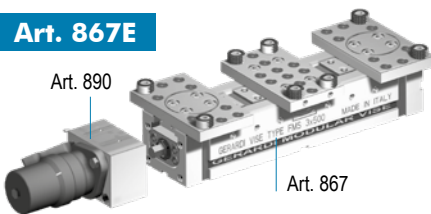
(Art. 867 + 802) Morsa + moltiplicatore di coppia / Vise + torque multiplier

Cod.	5.86.7D130	5.86.7D230	5.86.7D240	5.86.7D250	5.86.7D260	5.86.7D340	5.86.7D350
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Moltiplicatore di coppia con rinvio angolare - Mechanical with torque multiplier with angular transmission

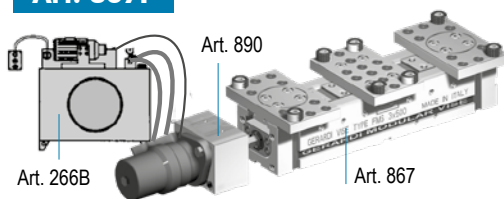
Cod.	5.80.21000	5.80.22000	5.80.23000
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**Art. 802**

**Art. 867E**


(Art. 867 + 890) Morsa + motore idraulico / Vise + hydraulic motor

Cod.	5.86.7E130	5.86.7E230	5.86.7E240	5.86.7E250	5.86.7E260	5.86.7E340	5.86.7E350
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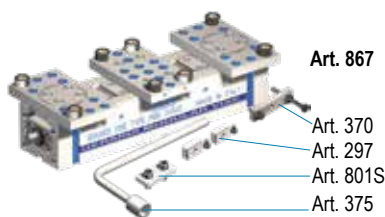
**Art. 867F**


(Art. 867 + 890 + 266B) Morsa + motore idraulico + centralina / Vise + hydraulic motor + power unit

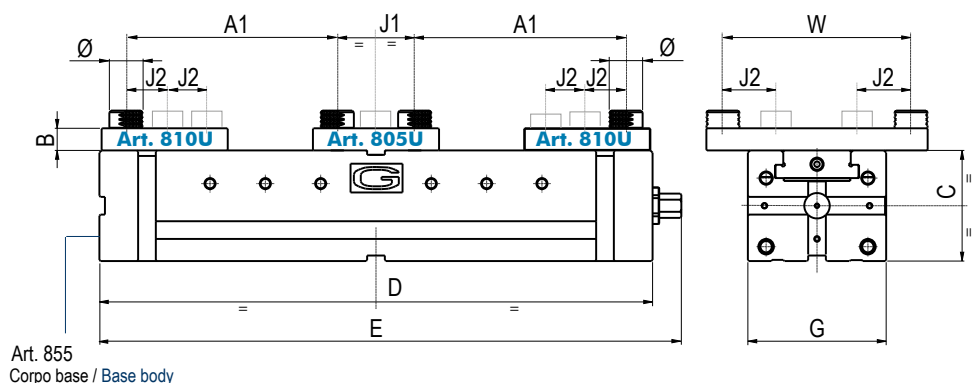
Cod.	5.86.7F130	5.86.7F230	5.86.7F240	5.86.7F250	5.86.7F260	5.86.7F340	5.86.7F350
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**Dotazione standard:**

- 2 arresti laterali Art. 370
- 1 coppia di tasselli di posizionamento precisi Art. 297
- 1 chiave a pipa Art. 375
- 1 piastrina di collegamento Art.801S


**Standard equipment:**

- 2 workstops Art. 370
- 1 pair of precision positioning key-nuts Art. 297
- 1 box wrench Art. 375
- 1 connecting plate Art.801S



3 30 kN			4 30 kN				5 32 kN			6 32 kN		
241	291	341	191	241	291	341	231	281	331	331	381	431
	20			30				35			35	
	100			120				140			160	
600	700	800	500	600	700	800	600	700	800	800	900	1000
625	725	825	525	625	725	825	625	725	825	825	925	1025
	125			145				170			190	
	70			80				100			100	
	35			40				40			40	
	30 (H = 16)			30 (H = 16)				40 (H = 30)			40 (H = 30)	
	170			220				250			300	
50	55	60	68	76	85	93	124	134	144	200	220	240
5.86.73600	5.86.73700	5.86.73800	5.86.74500	5.86.74600	5.86.74700	5.86.74800	5.86.75600	5.86.75700	5.86.75800	5.86.76800	5.86.76900	5.86.76100

**Art. 867D** (Art. 867 + 802) Morsa + moltiplicatore di coppia / Vise + torque multiplier

5.86.7D360	5.86.7D370	5.86.7D380	5.86.7D450	5.86.7D460	5.86.7D470	5.86.7D480	5.86.7D560	5.86.7D570	5.86.7D580	5.86.7D680	5.86.7D690	5.86.7D610
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**Art. 802** Moltiplicatore di coppia con rinvio angolare - Mechanical with torque multiplier with angular transmission

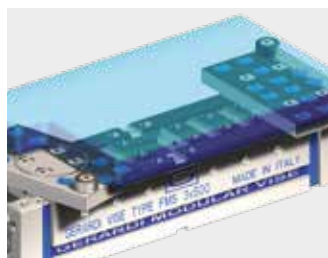
5.80.23000	5.80.24000	5.80.25000	5.80.26000
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**Art. 867E** (Art. 867 + 890) Morsa + motore idraulico / Vise + hydraulic motor

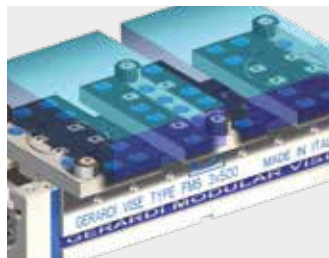
5.86.7E360	5.86.7E370	5.86.7E380	5.86.7E450	5.86.7E460	5.86.7E470	5.86.7E480	5.86.7E560	5.86.7E570	5.86.7E580	5.86.7E680	5.86.7E690	5.86.7E610
------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------

**Art. 867F** (Art. 867 + 890 + 266B) Morsa + motore idraulico + centralina / Vise + hydraulic motor + power unit

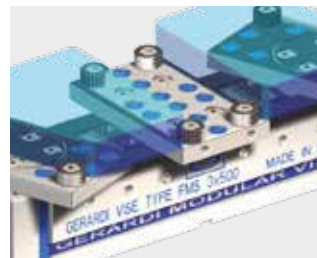
5.86.7F360	5.86.7F370	5.86.7F380	5.86.7F450	5.86.7F460	5.86.7F470	5.86.7F480	5.86.7F560	5.86.7F570	5.86.7F580	5.86.7F680	5.86.7F690	5.86.7F610
------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------

**Art. 867** Esempi applicativi ganasce oscillanti regolabili:  
 Floating adjustable jaws application examples:


4 inserti - 4 jaw inserts



6 inserti - 6 jaw inserts

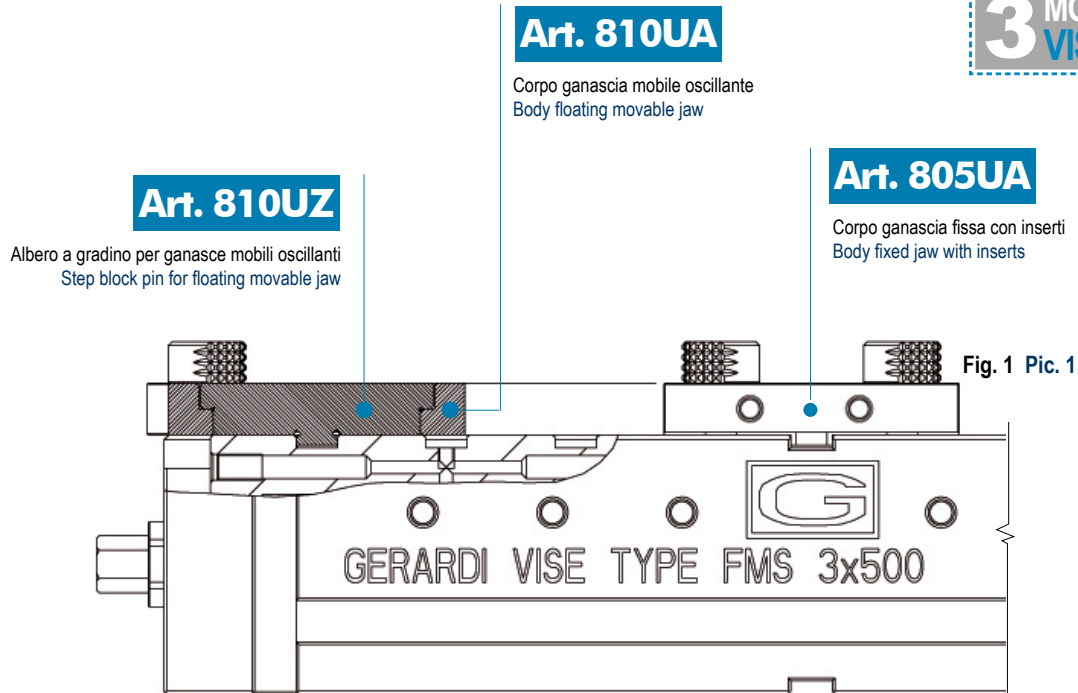


8 inserti - 8 jaw inserts

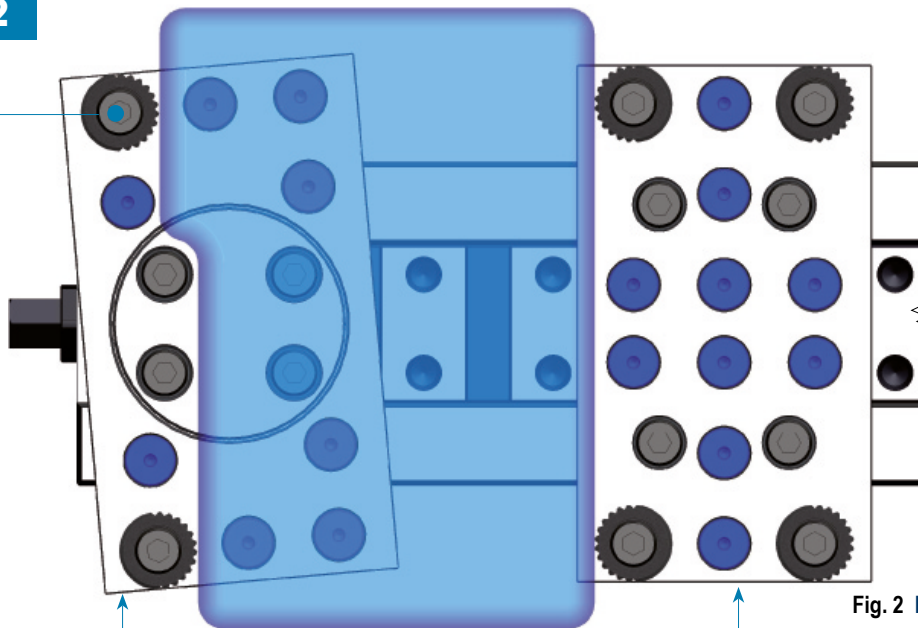
## FUNZIONAMENTO DELLE GANASCE MOBILI OSCILLANTI CON INSERTI

### HOW TO OPERATE FLOATING MOVABLE JAWS WITH INSERTS

**3 MORSE IN 1**  
**VISES IN 1**



**Art. 812**



**Art. 810U**

Ganascia mobile oscillante con inserti  
Floating movable jaw with inserts

**Art. 805U**

Ganascia fissa con inserti  
Fixed jaw with inserts

Le ganasce mobili oscillanti consentono il serraggio di pezzi di forma irregolare i cui lati non risultino paralleli (Fig. 2). Questo è reso possibile dall'albero a gradino (Art. 810UZ - Fig. 1), posto al centro della ganascia, che pur permettendo la rotazione della ganascia, ne mantiene la precisione ed evita il sollevamento del pezzo mentre viene lavorato. Il tutto a garanzia di un serraggio in piena sicurezza. Gli inserti estremizzano ulteriormente la versatilità delle ganasce mobili oscillanti della morsa FMS.

Floating movable jaws allow to clamp workpieces with irregular shapes whose sides are not parallels (Pic. 2). In fact thanks to the step block spindle (Art. 810UZ - Pic. 1), positioned in the centre of the jaw body, the jaw can float and guarantee at the same time maximum precision and no tilting of the parts while being worked. The safety of the workholding is guaranteed. The insert further increase the versatility of the FMS floating movable jaws.

# GANASCE FISSE & MOBILI FMS

## FMS FIXED AND MOVABLE JAWS

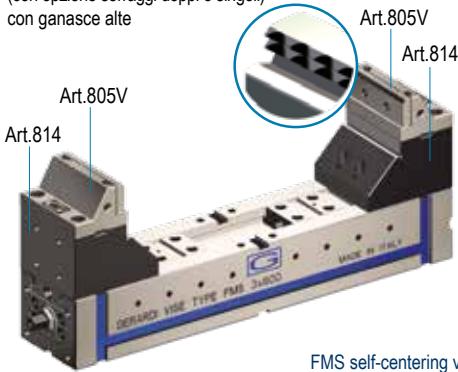
Tipo (grandezza) morsa / Vise type (size)	1	2	3	4	5	6		
<b>Art. 810U*</b> Ganascia mobile regolabile oscillante con inserti Floating movable jaw with inserts		Cod. 5.81.0U100	5.81.0U200	5.81.0U300	5.81.0U400	5.81.0U500	5.81.0U600	
* Viti per fissaggio a richiesta Fixing screws on request								
<b>Art. 810UA</b> Corpo ganascia mobile oscillante Body floating movable jaw		Cod. 5.81.0UA10	5.81.0UA20	5.81.0UA30	5.81.0UA40	5.81.0UA50	5.81.0UA60	
<b>Art. 810UZ*</b> Albero a gradino per ganasce mobili oscillanti Step block pin for floating movable jaw		Cod. 5.81.0UZ10	5.81.0UZ20	5.81.0UZ30	5.81.0UZ40	5.81.0UZ50	5.81.0UZ60	
* Viti per fissaggio a richiesta Fixing screws on request								
<b>Art. 810Q*</b> Ganascia mobile regolabile con inserti Movable jaw with inserts		Cod. 5.81.0Q100	5.81.0Q200	5.81.0Q300	5.81.0Q400	5.81.0Q500	5.81.0Q600	
* Viti per fissaggio a richiesta Fixing screws on request								
<b>Art. 810QA</b> Corpo ganascia regolabile mobile per inserti Body movable jaw for inserts		Cod. 5.81.0QA10	5.81.0QA20	5.81.0QA03	5.81.0QA40	5.81.0QA50	5.81.0QA60	
<b>Art. 805U*</b> Ganascia fissa regolabile con inserti Fixed jaw with inserts		Cod. 5.80.5U100	5.80.5U200	5.80.5U300	5.80.5U400	5.80.5U500	5.80.5U600	
* Viti per fissaggio a richiesta Fixing screws on request								
<b>Art. 805UA</b> Corpo ganascia fissa regolabile per inserti Body fixed jaw per inserts		Cod. 5.80.5UA10	5.80.5UA20	5.80.5UA30	5.80.5UA40	5.80.5UA50	5.80.5UA60	
<b>Art. 812</b> Coppia di inserti lisci e zigrinati Pair of smooth and serrated insert		Ø	30			40		
<b>Art. 812A</b> Coppia di inserti lisci Pair of smooth insert		H	16			30		
<b>Art. 812C</b> Coppia di inserti zigrinati Pair of serrated insert					Cod. 5.81.21000		Cod. 5.81.25000	
				Cod. 5.81.2A100		Cod. 5.81.2A500		
				Cod. 5.81.2C100		Cod. 5.81.2C500		
<b>Art. 813</b> Coppia di inserti lisci e zigrinati alti Pair of smooth and serrated high insert		Ø	30			40		
<b>Art. 813A</b> Coppia di inserti lisci alti Pair of smooth high insert		H	28			50		
<b>Art. 813C</b> Coppia di inserti zigrinati alti Pair of serrated high insert					Cod. 5.81.31000		Cod. 5.81.35000	
				Cod. 5.81.3A100		Cod. 5.81.3A500		
				Cod. 5.81.3C100		Cod. 5.81.3C500		
<b>Art. 815</b> Coppia di inserti lisci e zigrinati a gradino Pair of smooth and serrated step insert		H	16			30		
<b>Art. 815A</b> Coppia di inserti lisci a gradino Pair of smooth step insert					Cod. 5.81.51000		Cod. 5.81.55000	
<b>Art. 815C</b> Coppia di inserti zigrinati a gradino Pair of serrated step insert					Cod. 5.81.5A100		Cod. 5.81.5A500	
				Cod. 5.81.5C100		Cod. 5.81.5C500		
<b>Art. 812B</b> Coppia di inserti in acciaio lavorabile Pair of insert in machineable steel metal		Ø	40			60		
		H	40			60		
				Cod. 5.81.2B100		Cod. 5.81.2B500		
<b>Art. 84U</b> Tappo in alluminio Aluminum cap		Cod. 5.84.U1000				5.84.U5000		

**Tipo (grandezza) morsa / Vise type (size)**

kN	1		2				3	
	25 kN		25 kN				30 kN	
A	130	230	182	282	382	482	244	344
B	99,5			117			137	
C	70			90			100	
D	232	332	300	400	500	600	400	500
E	249	349	320	420	520	620	425	525
F	169,5			207			237	
G	75			95			125	
H	75			85			98	
L	56			64			84	
J3	76	76		101			132	
J4	55	55		63			82	
X	39,5			47			57	
W	74			94			124	
kg	-			-			-	

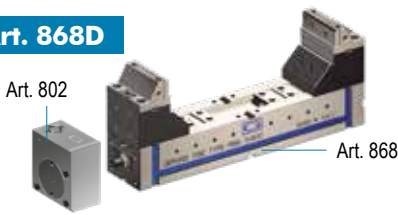
**3 MORSE IN VISES IN 1**
**Art. 868**

Morsa FMS autocentrante (con opzione serraggi doppi o singoli) con ganasce alte



FMS self-centering vise (with double or single clamping option) with high jaws

Cod.	5.86.81200	5.86.81300	5.86.82300	5.86.82400	5.86.82500	5.86.82600	5.86.83400	5.86.83500
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**Art. 868D**


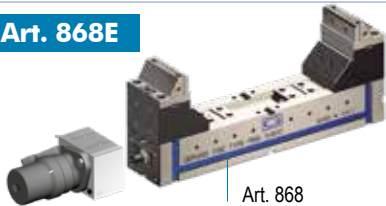
(Art. 868 + 802) Morsa + moltiplicatore di coppia / Vise + torque multiplier

Cod.	5.86.8D120	5.86.8D130	5.86.8D230	5.86.8D240	5.86.8D250	5.86.8D260	5.86.8D340	5.86.8D350
------	------------	------------	------------	------------	------------	------------	------------	------------

Moltiplicatore di coppia con rinvio angolare - Mechanical with torque multiplier with angular transmission

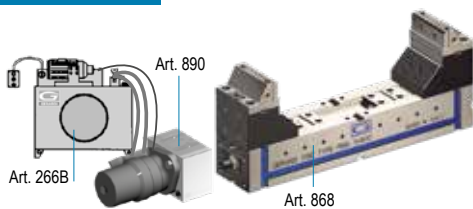
Cod.	5.80.21000	5.80.22000	5.80.23000
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**Art. 802**

**Art. 868E**


(Art. 868 + 890) Morsa + motore idraulico / Vise + hydraulic motor

Cod.	5.86.8E120	5.86.8E130	5.86.8E230	5.86.8E240	5.86.8E250	5.86.8E260	5.86.8E340	5.86.8E350
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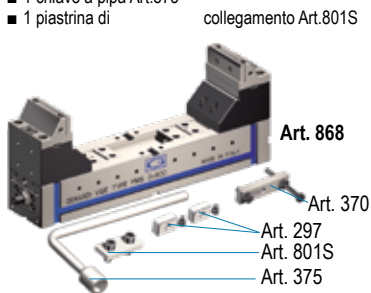
**Art. 868F**


(Art. 868 + 890 + 266B) Morsa + motore idraulico + centralina / Vise + hydraulic motor + power unit

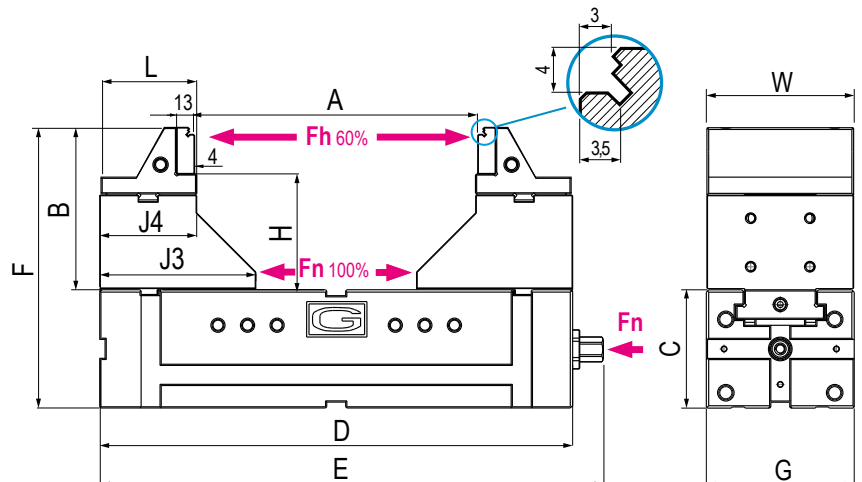
Cod.	5.86.8F120	5.86.8F130	5.86.8F230	5.86.8F240	5.86.8F250	5.86.8F260	5.86.8F340	5.86.8F350
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**Dotazione standard:**

- 1 arresti laterali Art. 370
- 1 coppia di tasselli di posizionamento precisi Art. 297
- 1 chiave a pipa Art.375
- 1 piastrina di collegamento Art.801S


**Standard equipment:**

- 1 workstops Art. 370
- 1 pair of precision positioning key-nuts Art. 297
- 1 box wrench Art. 375
- 1 connecting plate Art.801S



3 30 kN			4 30 kN				5 32 kN			6 32 kN		
444	544	644	316	416	516	616	396	496	596	596	696	796
	137			171				186			246	
	100			120				140			160	
600	700	800	500	600	700	800	600	700	800	800	900	1000
625	725	825	525	625	725	825	625	725	825	825	925	1025
	237			291				326			406	
	125			145				170			190	
	98			128				138			180	
	84			97				107			107	
	132			154				169			189	
	82			96				106			106	
	57			64				66			86	
	124			144				169			189	
	-			-				-			-	

5.86.83600 5.86.83700 5.86.83800 5.86.84500 5.86.84600 5.86.84700 5.86.84800 5.86.85600 5.86.85700 5.86.85800 5.86.86800 5.86.86900 5.86.86100

**Art. 868D**

(Art. 868 + 802) Morsa + moltiplicatore di coppia / Vise + torque multiplier

5.86.8D360 5.86.8D370 5.86.8D380 5.86.8D450 5.86.8D460 5.86.8D470 5.86.8D480 5.86.8D560 5.86.8D570 5.86.8D580 5.86.8D680 5.86.8D690 5.86.8D610

**Art. 802**

Moltiplicatore di coppia con rinvio angolare - Mechanical with torque multiplier with angular transmission

5.80.23000

5.80.24000

5.80.25000

5.80.26000

**Art. 868E**

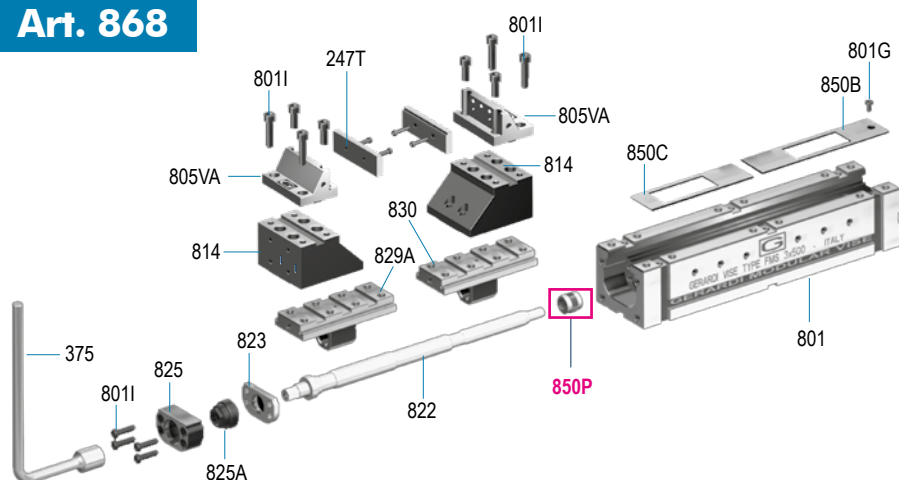
(Art. 868 + 890) Morsa + motore idraulico / Vise + hydraulic motor

5.86.8E360 5.86.8E370 5.86.8E380 5.86.8E450 5.86.8E460 5.86.8E470 5.86.8E480 5.86.8E560 5.86.8E570 5.86.8E580 5.86.8E680 5.86.8E690 5.86.8E610

**Art. 868F**

(Art. 868 + 890 + 266B) Morsa + motore idraulico + centralina / Vise + hydraulic motor + power unit

5.86.8F360 5.86.8F370 5.86.8F380 5.86.8F450 5.86.8F460 5.86.8F470 5.86.8F480 5.86.8F560 5.86.8F570 5.86.8F580 5.86.8F680 5.86.8F690 5.86.8F610

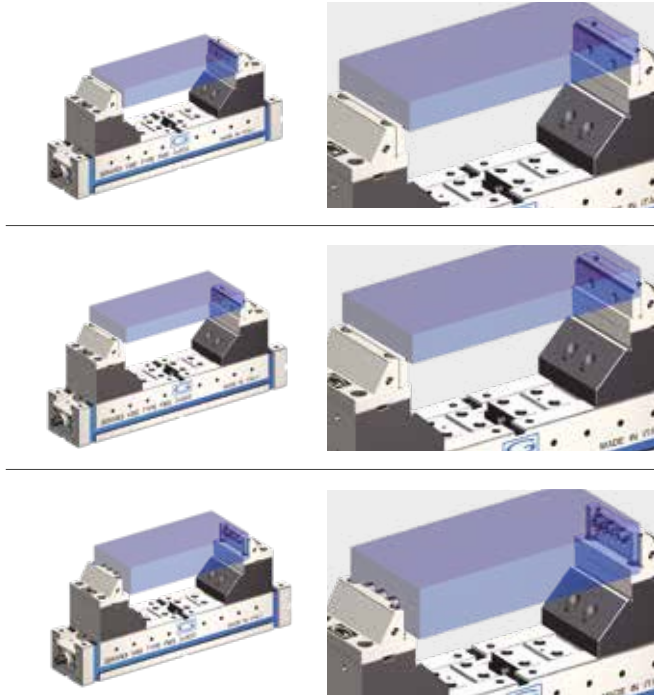
**Art. 868**


Art.	Pag.	Art.	Pag.
<b>375</b>	4.33	<b>850B</b>	5.61
<b>801</b>	5.46	<b>850C</b>	5.61
<b>801G</b>	5.61	<b>850P</b>	5.61
<b>801I</b>	5.61	<b>814</b>	5.56
<b>810J</b>	5.56	<b>805VA</b>	5.33
<b>822</b>	5.52	<b>247T</b>	5.33
<b>823</b>	5.59	-	-
<b>825</b>	5.59	-	-
<b>825A</b>	5.61	-	-
<b>829A</b>	5.50	-	-
<b>830</b>	5.50	-	-

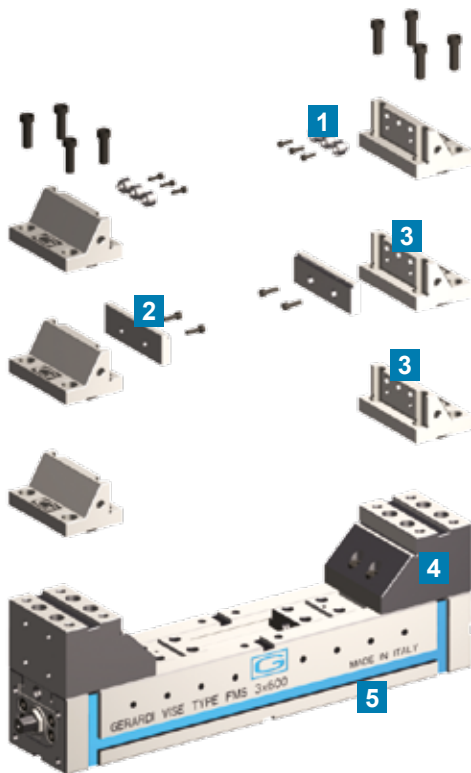
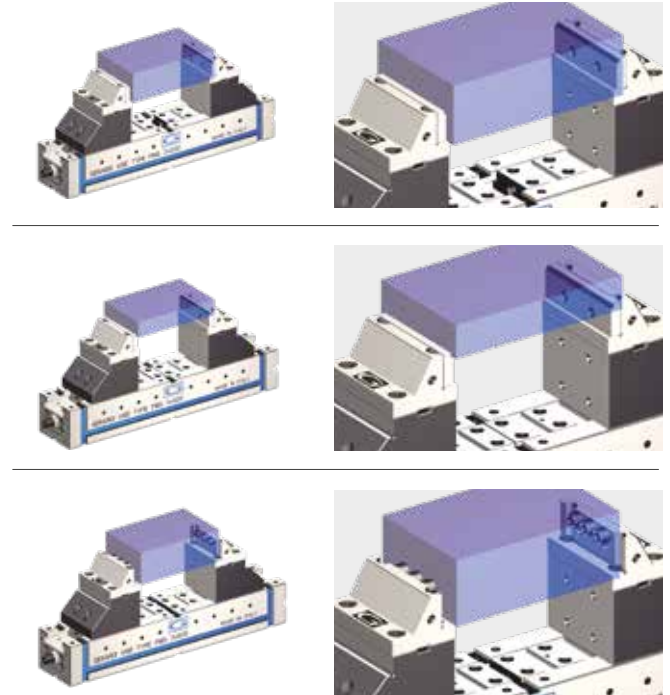
## POSSIBILI COMBINAZIONI DELLA MORSA Art.868

### POSSIBLE ARRANGEMENTS OF THE Art.868 VISE

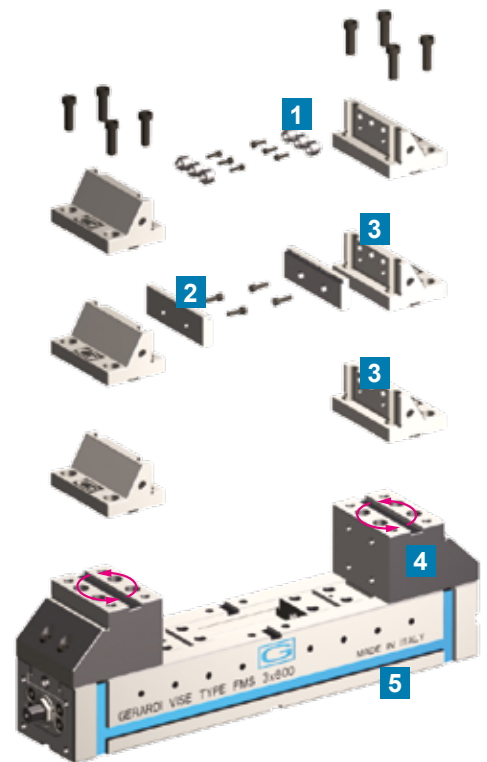
**Orientamento base mobile Art.814 per massima apertura ganasce**  
Movable base Art.814 oriented for the maximum jaws opening



**Orientamento base mobile Art.814 per chiusura ganasce a zero**  
Movable base Art.814 oriented in order to close jaws completely



- |   |            |
|---|------------|
| 1 | Art. 90    |
| 2 | Art. 247T  |
| 3 | Art. 805VA |
| 4 | Art. 814   |
| 5 | Art. 855   |



Possibilità di utilizzo di qualsiasi ganaschia fissa FMS anzichè del corpo ganaschia 805V. Possibilità di due posizioni per ciascuna ganaschia fissa e per base ganaschia mobile Art.814  
Possibility to use each FMS fixed jaw instead of jaw body Art.805V. Possibility of two positions (at 180°) for each fixed jaw and for movable base jaw Art.814



# GANASCE & PIASTRE GANASCE PER Art.868

## JAWS & JAW PLATES FOR Art.868

**Tipo (grandezza) morsa / Vise type (size)**
**1      2      3      4      5      6**
**Art. 805V\***

 Ganaschia per piastrine e puntali  
 Jaw for plates and points


Cod.	5.80.5V100	5.80.5V200	5.80.5V300	5.80.5V400	5.80.5V500	5.80.5V600
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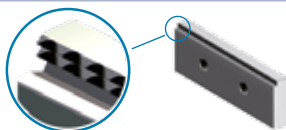
\* Viti per fissaggio a richiesta Fixing screws on request

**Art. 90**

 Puntale temprato GRIP  
 Hardened GRIP Insert


Cod.	5.90.10000
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**Art. 247T (W2)**

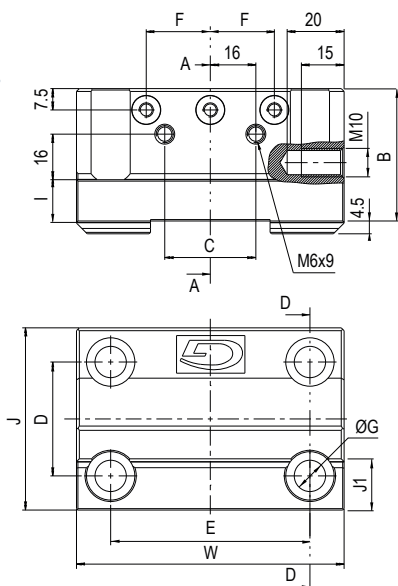
 Piastrina piana temprata GRIP  
 con larghezza ridotta  
 Hardened straight jaw plate GRIP  
 with narrow width


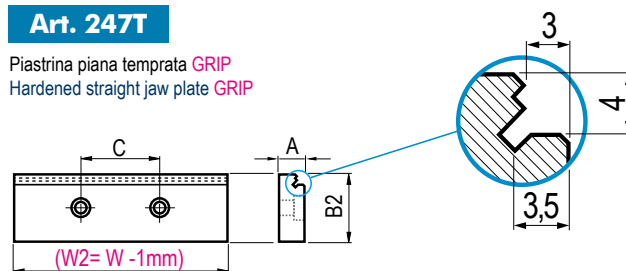
Cod.	4.24.7T100	4.24.7T200	4.24.7T300	4.24.7T400	4.24.7T500	4.24.7T600
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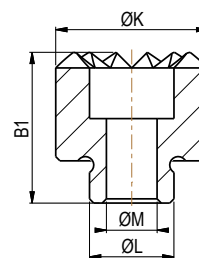

**PIASTRE GANASCE "GRIP"**  
 Minor Superficie → **Maggior Pressione**  
 Less Surface → **More Pressure**

 Per qualsiasi piastra piana speciale, raddoppiare il prezzo  
 For special I taylor made straight jaw plate double the price

**Art. 805VA**

 Corpo Ganaschia  
 Jaw for plates and points

**Art. 247T**

 Piastrina piana temprata GRIP  
 Hardened straight jaw plate GRIP

**Art. 90**

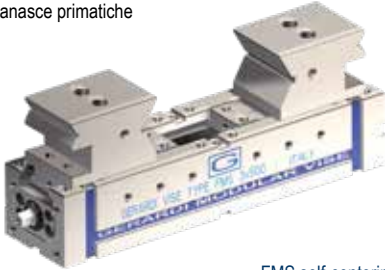
 Puntale temprato GRIP  
 Hardened GRIP Point


mm	1	2	3	4	5	6
W	74	94	124	144	169	189
A	12	12	13	13	18	
B	39,5	47	57	61	66	86
B2	24,5	32	39	43	48	56
C	25	32	50	50	75	90
D	32	40	50	60	68	68
E	56	70	92	108	126	144
F	2X26	3x20	3x25	4x20	4x25	4x30
ØG	9	11	13	17	17	21
I	15	15	18	18	18	20
J	56	64	84	97	107	107
J1				17		
ØK	-			18		-
ØL	-			10 h8		-
ØM	-			6		-

Tipo (grandezza) morsa / Vise type (size)	kN	1		2				3	
		25 kN		25 kN				30 kN	
Apertura minima - massima / minimum - maximum Aperture	A	10 / 25	10 / 25	20 / 50	20 / 50	20 / 50	20 / 50	40 / 100	40 / 100
Apertura minima - massima / minimum - maximum Aperture	A1	10 / 15	10 / 15	10 / 25	10 / 25	10 / 25	10 / 25	25 / 50	25 / 50
<b>Art. 870</b>	B	34				55		90	
	C	70				90		100	
	D	232	332	300	400	500	600	400	500
	E	249	349	320	420	520	620	425	525
	F	104				145		190	
	G	75				95		125	
	J	48	60			102		132	
	W	50				75		100	
	kg	9	12	23	30	63	43	47	52
	Cod.	5.87.01200	5.87.01300	5.87.02300	5.87.02400	5.87.02500	5.87.02600	5.87.03400	5.87.03500

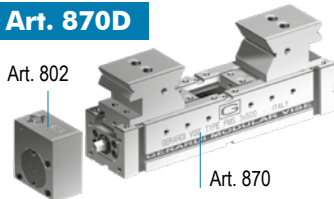
**3 MORSE IN VISES IN 1**

Morsa FMS autocentrante (opzione doppia o singola) con ganasce prismatiche



FMS self-centering vise (double or single option) with prismatic jaws

### Art. 870D



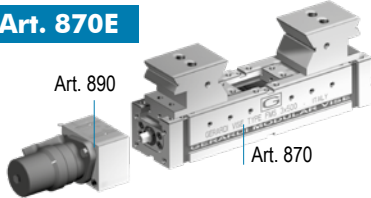
(Art. 870 + 802) Morsa + moltiplicatore di coppia / Vise + torque multiplier

Cod.	5.87.0D120	5.87.0D130	5.87.0D230	5.87.0D240	5.87.0D250	5.87.0D260	5.87.0D340	5.87.0D350
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Moltiplicatore di coppia con rinvio angolare - Mechanical with torque multiplier with angular transmission

Cod.	5.80.21000	5.80.22000	5.80.23000
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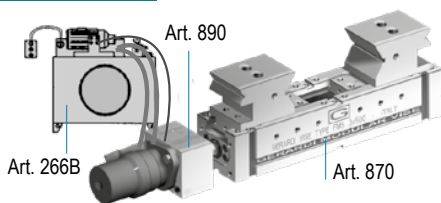
### Art. 870E



(Art. 870 + 890) Morsa + motore idraulico / Vise + hydraulic motor

Cod.	5.87.0E120	5.87.0E130	5.87.0E230	5.87.0E240	5.87.0E250	5.87.0E260	5.87.0E340	5.87.0E350
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### Art. 870F

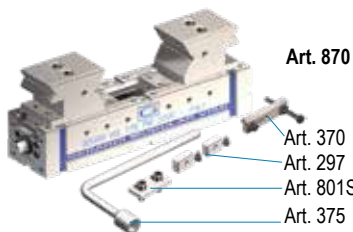


(Art. 870 + 890 + 266B) Morsa + motore idraulico + centralina / Vise + hydraulic motor + power unit

Cod.	5.87.0F120	5.87.0F130	5.87.0F230	5.87.0F240	5.87.0F250	5.87.0F260	5.87.0F340	5.87.0F350
------	------------	------------	------------	------------	------------	------------	------------	------------

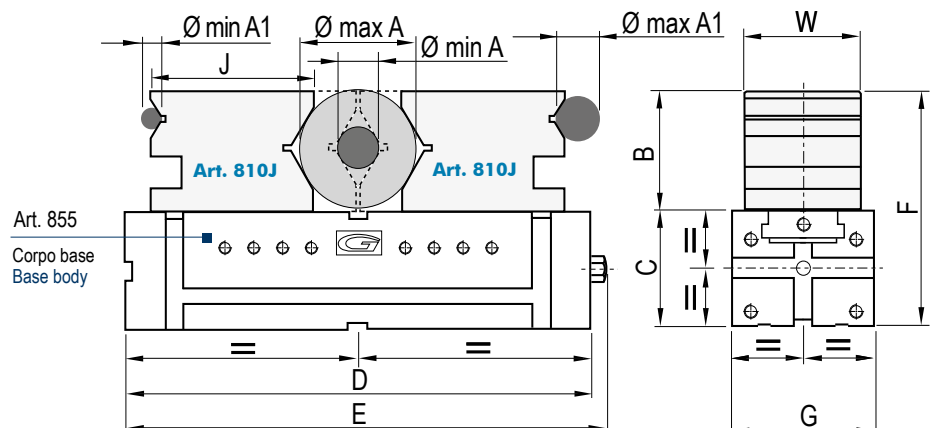
#### Dotazione standard:

- 1 arresti laterali Art. 370
- 1 coppia di tasselli di posizionamento precisi Art. 297
- 1 chiave a pipa Art. 375
- 1 piastrina di collegamento Art.801S



#### Standard equipment:

- 1 workstops Art. 370
- 1 pair of precision positioning key-nuts Art. 297
- 1 box wrench Art. 375
- 1 connecting plate Art.801S



3 30 kN			4 30 kN				5 32 kN			6 32 kN		
40 / 100	40 / 100	40 / 100	40 / 150	40 / 150	40 / 150	40 / 150	63 / 200	65 / 240	80 / 280	100 / 300	120 / 350	140 / 400
25 / 50	25 / 50	25 / 50	30 / 60	30 / 60	30 / 60	30 / 60	35 / 70	35 / 70	35 / 80	40 / 140	40 / 140	40 / 140
90		132					171	191	226	250	275	300
100		120					140			160		
600	700	800	500	600	700	800	600	700	800	800	900	1000
625	725	825	525	625	725	825	625	725	825	825	925	1025
190		252					311	331	366	410	435	460
125		145					170			190		
132		156					176			174		
100		132					140			160		
57	62	67	74	82	91	99	135	145	155	225	245	265

5.87.03600 5.87.03700 5.87.03800 5.87.04500 5.87.04600 5.87.04700 5.87.04800 5.87.05600 5.87.05700 5.87.05800 5.87.06800 5.87.06900 5.87.06100

**Art. 870D** (Art. 870 + 802) Morsa + moltiplicatore di coppia / Vise + torque multiplier

5.87.0D360 5.87.0D370 5.87.0D380 5.87.0D450 5.87.0D460 5.87.0D470 5.87.0D480 5.87.0D560 5.87.0D570 5.87.0D580 5.87.0D680 5.87.0D690 5.87.0D610

**Art. 802** Moltiplicatore di coppia con rinvio angolare - Mechanical with torque multiplier with angular transmission

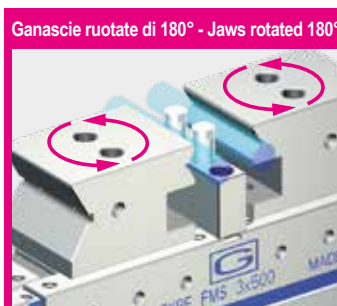
5.80.23000 5.80.24000 5.80.25000 5.80.26000

**Art. 870E** (Art. 870 + 890) Morsa + motore idraulico / Vise + hydraulic motor

5.87.0E360 5.87.0E370 5.87.0E380 5.87.0E450 5.87.0E460 5.87.0E470 5.87.0E480 5.87.0E560 5.87.0E570 5.87.0E580 5.87.0E680 5.87.0E690 5.87.0E610

**Art. 870F** (Art. 870 + 890 + 266B) Morsa + motore idraulico + centralina / Vise + hydraulic motor + power unit

5.87.0F360 5.87.0F370 5.87.0F380 5.87.0F450 5.87.0F460 5.87.0F470 5.87.0F480 5.87.0F560 5.87.0F570 5.87.0F580 5.87.0F680 5.87.0F690 5.87.0F610

**Art. 870** Esempi applicativi ganasce prismatiche:  
 Prismatic jaws application examples:


Ganasce ruotate di 180° - Jaws rotated 180°

**Art. 870A**

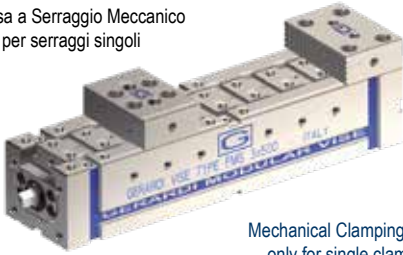
Serraggio di 2 particolari tondi per mezzo della ganaschia intermedia alta Art.870A  
 Round workpieces clamping by intermediate high jaw Art.870A

**N.B.:** Realizzabili versioni speciali per diametro **Max.1500** - Special Types available on request for up to **Ø1500**

Tipo (grandezza) morsa / Vise type (size)	kN	1		2				3	
		25 kN		25 kN				30 kN	
Apertura massima / Maximum opening	A	85	185	170	270	370	470	230	330
Minima apertura interno-esterno / Minimum opening inside-outside	A1	115 / 200	115 / 300	130 / 300	130 / 400	130 / 500	130 / 600	170 / 400	170 / 500
	B	25		30				40	
	C	70		90				100	
	D	232	332	300	400	500	600	400	500
	E	249	349	320	420	520	620	425	525
	G	75		95				125	
	W	74		94				124	
	kg	7	10	18	25	32	39	40	45

### Art. 800

Morsa a Serraggio Meccanico solo per serraggi singoli



Mechanical Clamping vise only for single clamping

Cod.	5.80.01200	5.80.01300	5.80.02300	5.80.02400	5.80.02500	5.80.02600	5.80.03400	5.80.03500
------	------------	------------	------------	------------	------------	------------	------------	------------

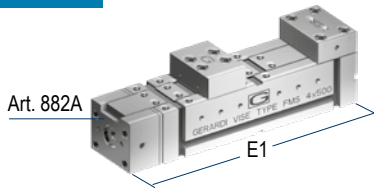
**SPECIFICA SOLO PER SERRAGGI SINGOLI**

**SPECIFIC FOR SINGLE CLAMPING ONLY**

Questa morsa, pur essendo parte del programma FMS, non è predisposta per serraggi doppi o autocentranti

### Art. 800A

Meccanica con predisposizione idraulica solo per serraggi singoli / Mechanical with prepared hydraulic connection only for single clamping



Art. 882A

E1

E1	273	373	370,5	470,5	570,5	670,5	485	585
Cod.	5.80.0A120	5.80.0A130	5.80.0A230	5.80.0A240	5.80.0A250	5.80.0A260	5.80.0A340	5.80.0A350

Connettore Idraulico - Hydraulic Connexion

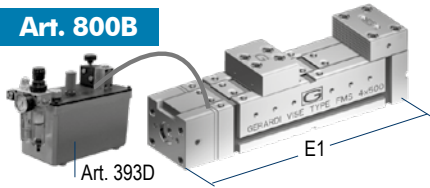
Corsa - Stroke mm	4	7	10
Superficie - Surface cm <sup>2</sup>	6	21	21
Pressione - Pressure bar	417	119	143

### Art. 882A



### Art. 800B

(Art. 800A + Art.393) Morsa + centralina a comando manuale singolo / Vise + power unit with single manual control



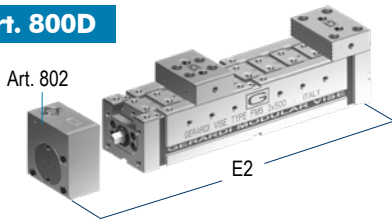
Art. 393D

E1

E1	273	373	370,5	470,5	570,5	670,5	485	585
Cod.	5.80.0B120	5.80.0B130	5.80.0B230	5.80.0B240	5.80.0B250	5.80.0B260	5.80.0B340	5.80.0B350

### Art. 800D

(Art. 800 + 802) Morsa + moltiplicatore di coppia / Vise + torque multiplier



Art. 802

E2

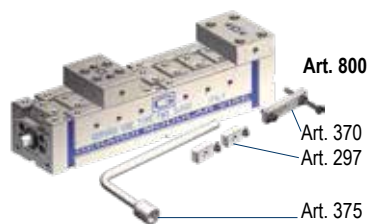
E2	277	377	360	460	560	660	470	570
Nm	Max 20		Max 25				Max 20	
Cod.	5.80.0D120	5.80.0D130	5.80.0D230	5.80.0D240	5.80.0D250	5.80.0D260	5.80.0D340	5.80.0D350

Moltiplicatore di coppia con rinvio angolare - Mechanical with torque multiplier with angular transmission

Cod.	5.80.21000	5.80.22000	5.80.23000
------	------------	------------	------------

#### Dotazione standard:

- 1 arresto laterale Art. 370
- 1 coppia di tasselli di posizionamento precisi Art. 297
- 1 chiave a pipa Art. 375



Art. 800

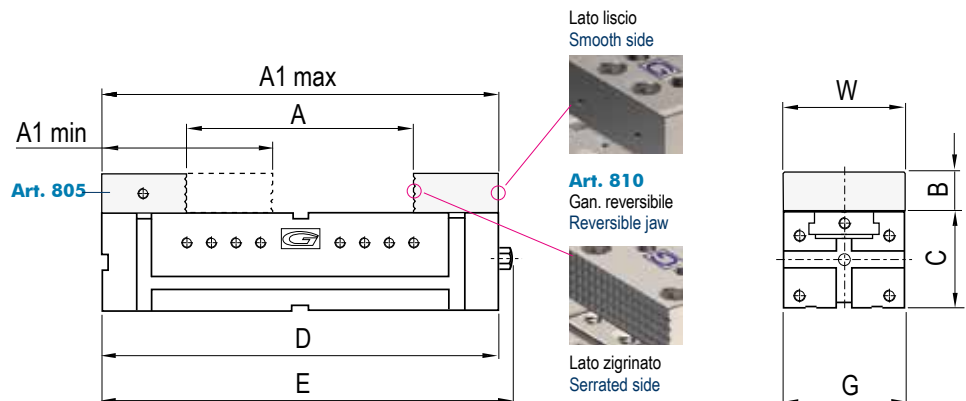
Art. 370

Art. 297

Art. 375

#### Standard equipment:

- 1 workstop Art. 370
- 1 pair of precision positioning key-nuts Art. 297
- 1 box wrench Art. 375



Lato liscio  
Smooth side

Art. 810  
Gan. reversibile  
Reversible jaw

Lato zigrinato  
Serrated side

3 30 kN			4 30 kN				5 32 kN			6 32 kN		
430	530	630	300	400	500	600	380	480	580	580	680	780
170 / 600	170 / 700	170 / 800	200 / 500	200 / 600	200 / 700	200 / 800	220 / 600	220 / 700	220 / 800	220 / 800	220 / 800	220 / 100
40			50				60			60		
100			120				140			160		
600	700	800	500	600	700	800	600	700	800	800	900	1000
625	725	825	525	625	725	825	625	725	825	825	925	1025
125			145				170			190		
124			144				169			189		
50	55	60	66	72	80	88	115	125	135	170	190	210

5.80.03600 5.80.03700 5.80.03800 5.80.04500 5.80.04600 5.80.04700 5.80.04800 5.80.05600 5.80.05700 5.80.05800 5.80.06800 5.80.06900 5.80.06100

This type of vise even if it is part of the FMS series is not suitable for double or self-centering clamping

**Art. 800A**

Meccanica con predisposizione idraulica solo per serraggi singoli / Mechanical with prepared hydraulic connection only for single clamping

685	785	885	585	685	785	885	-	-	-	-	-	-
5.80.0A360	5.80.0A370	5.80.0A380	5.80.0A450	5.80.0A460	5.80.0A470	5.80.0A480	5.80.0A560	5.80.0A570	5.80.0A580	5.80.0A680	5.80.0A690	5.80.0A610

**Art. 882A**

Connettore Idraulico - Hydraulic Connexion

10				10				-			-	
21				21				-			-	
143				143				-			-	

**Art. 800B**

(Art. 800A + Art.393) Morsa + centralina a comando manuale singolo / Vise + power unit with single manual control

685	785	885	585	685	785	885	-	-	-	-	-	-
5.80.0B360	5.80.0B370	5.80.0B380	5.80.0B450	5.80.0B460	5.80.0B470	5.80.0B480	5.80.0B560	5.80.0B570	5.80.0B580	5.80.0B680	5.80.0B690	5.80.0B610

**Art. 800D**

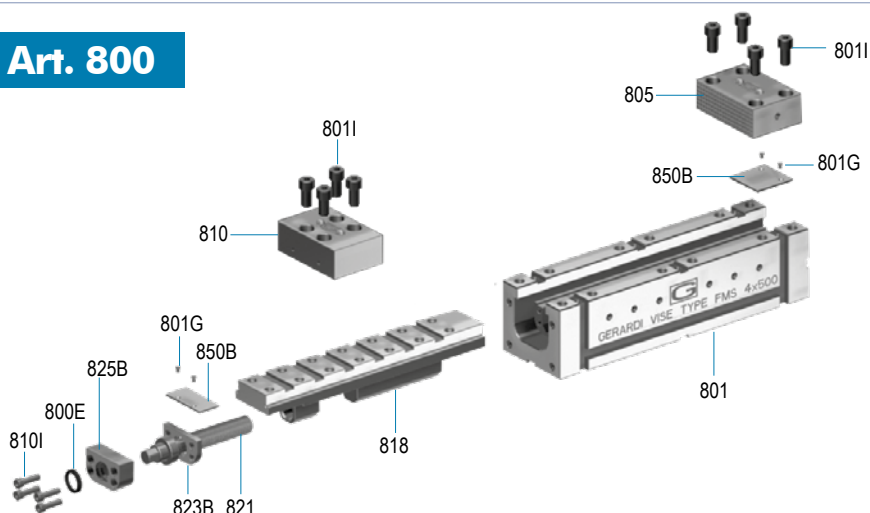
(Art. 800 + 802) Morsa + moltiplicatore di coppia / Vise + torque multiplier

670	770	870	570	670	770	870	685	785	885	-	-	-
Max 20				Max 20			Max 20			Max 20		
5.87.0D360	5.87.0D370	5.87.0D380	5.87.0D450	5.87.0D460	5.87.0D470	5.87.0D480	5.87.0D560	5.87.0D570	5.87.0D580	5.87.0D680	5.87.0D690	5.87.0D610


**Art. 802**

Moltiplicatore di coppia con rinvio angolare - Mechanical with torque multiplier with angular transmission

5.80.23000 5.80.24000 5.80.25000 5.80.26000

**Art. 800**


Art.	Pag.	Art.	Pag.
<b>800E</b>	5.61	-	-
<b>801</b>	5.46	-	-
<b>801G</b>	5.61	-	-
<b>801I</b>	5.61	-	-
<b>805</b>	5.54	-	-
<b>810</b>	5.56	-	-
<b>818</b>	5.50	-	-
<b>821</b>	5.52	-	-
<b>823B</b>	5.59	-	-
<b>825B</b>	5.59	-	-
<b>850B</b>	5.61	-	-

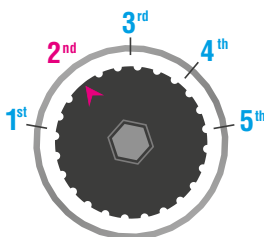
Tipo (grandezza) morsa / Vise type (size)	kN	1		2		3		
		25 kN		25 kN		30 kN		
Apertura massima / Maximum opening	A	-	-	-	-	-	232	332
<b>Art. 900</b> Morsa a Serraggio Meccanico con Limitatore di Forza solo per serraggi singoli  Mechanical Clamping vise with Limiting Device only for single clamping <b>SPECIFICA SOLO PER SERRAGGI SINGOLI</b> <b>SPECIFIC FOR SINGLE CLAMPING ONLY</b>	B	-	-	-	-	-	40	
	C	-	-	-	-	-	100	
	D	-	-	-	-	-	510	610
	E	-	-	-	-	-	400	500
	G	-	-	-	-	-	125	
	W	-	-	-	-	-	124	
	kg	-	-	-	-	-	-	44
Cod.	-	-	-	-	-	5.90.03400	5.90.03500	

Questa morsa, pur essendo parte del programma FMS, non è predisposta per serraggi doppi o autocentranti

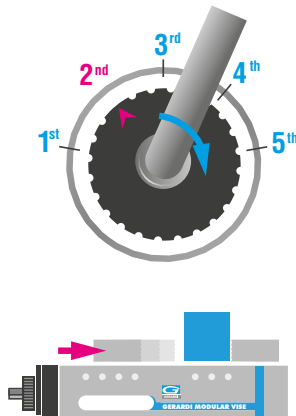
<b>Art. 900Y</b>	
Modulo per serraggio idraulico Module for hydraulic clamping 	Cod. - - - - - 5.90.0Y300

# 5

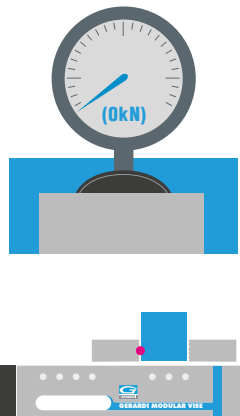
## FUNZIONAMENTO LIMITATORE DI FORZA - HOW TO USE THE LIMITING DEVICE



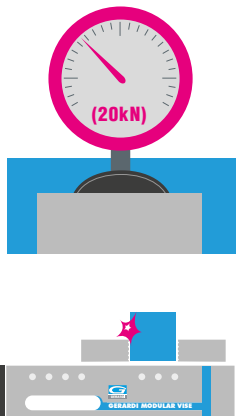
**1** Scegliere forza di serraggio tramite ghiera limitatore di forza.  
Presetting of the clamping force through the clamping limiter



**2** Rapido avvicinamento ganaschia mobile al pezzo da serrare  
Quick approach of the jaw to the workpiece



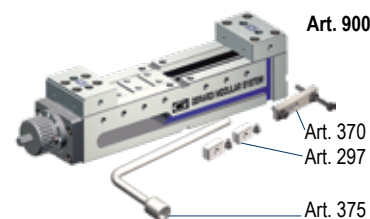
**3** Contatto ganaschia-particolare e sblocco frizione limitatore di forza.  
First contact jaw-workpiece and clamping limiter friction release



**4** Avvio meccanismo moltiplica forza  
Fermarsi a fine corsa.  
Force multiplier device start.  
At the end-stroke stop clamping.

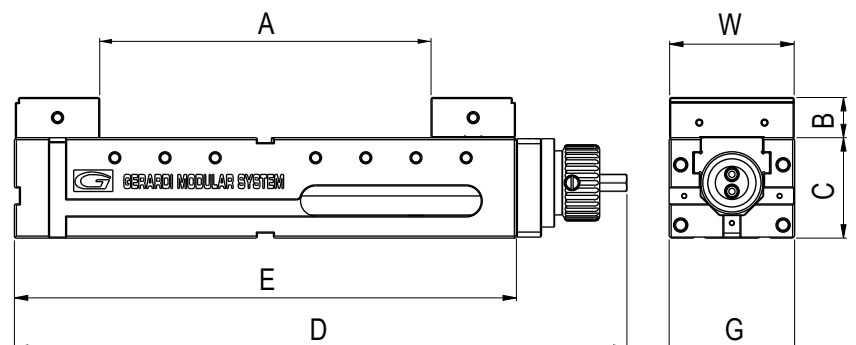
### Dotazione standard:

- 1 arresto laterale Art. 370
- 1 coppia di tasselli di posizionamento precisi Art. 297
- 1 chiave a pipa Art. 375



### Standard equipment:

- 1 workstop Art. 370
- 1 pair of precision positioning key-nuts Art. 297
- 1 box wrench Art. 375



3 30 kN			4 30 kN				5 32 kN			6 32 kN		
432	532	632	304	404	505	605	384	484	584	-	-	-
	40			50				60				
	100			120				140				
710	810	910	610	710	810	910	710	810	910	-	-	-
600	700	800	500	600	700	800	600	700	800	-	-	-
	125			145				170				
	124			144				169				
-	-	-	57	-	-	-	99	-	-	-	-	-
5.90.03600	5.90.03700	5.90.03800	5.90.04500	5.90.04600	5.90.04700	5.90.04800	5.90.05600	5.90.05700	5.90.05800	-	-	-

This type of vise even if it is part of the FMS series is not suitable for double or self-centering clamping

**Art. 900Y**

5.90.0Y300

5.90.0Y300

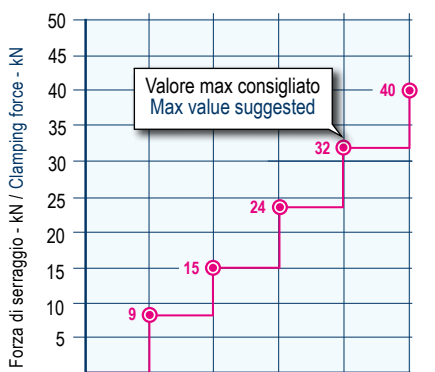
5.90.0Y300

**DIAGRAMMI CON FORZE DI SERRAGGIO - DIAGRAMS WITH CLAMPING FORCE**

5

**MORSE FMS TIPO 3  
FMS VISES TYPE 3**

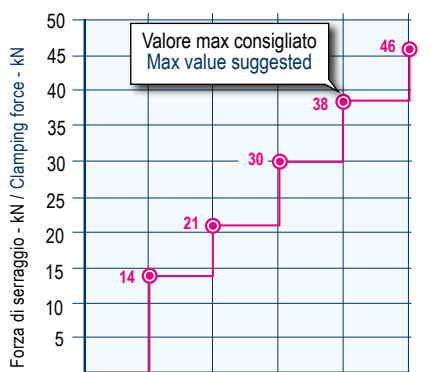
VITE: Ø 24 mm / Ø 30 mm PASSO: 2 mm  
 SCREW: Ø 24 mm / Ø 30 mm PITCH: 2 mm  
 Chiave dinamometrica / Torque wrench


**1st 2nd 3rd 4th 5th**

Posizioni ghiera limitatore / Fixed nut positions

**MORSE FMS TIPO 4  
FMS VISES TYPE 4**

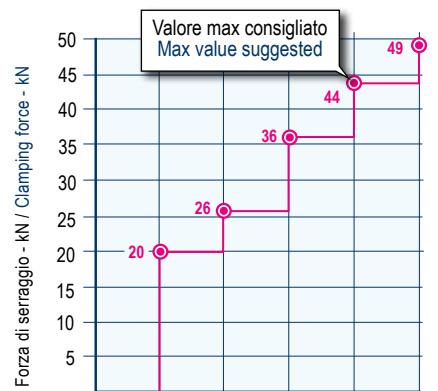
VITE: Ø 24 mm / Ø 30 mm PASSO: 2 mm  
 SCREW: Ø 24 mm / Ø 30 mm PITCH: 2 mm  
 Chiave dinamometrica / Torque wrench


**1st 2nd 3rd 4th 5th**

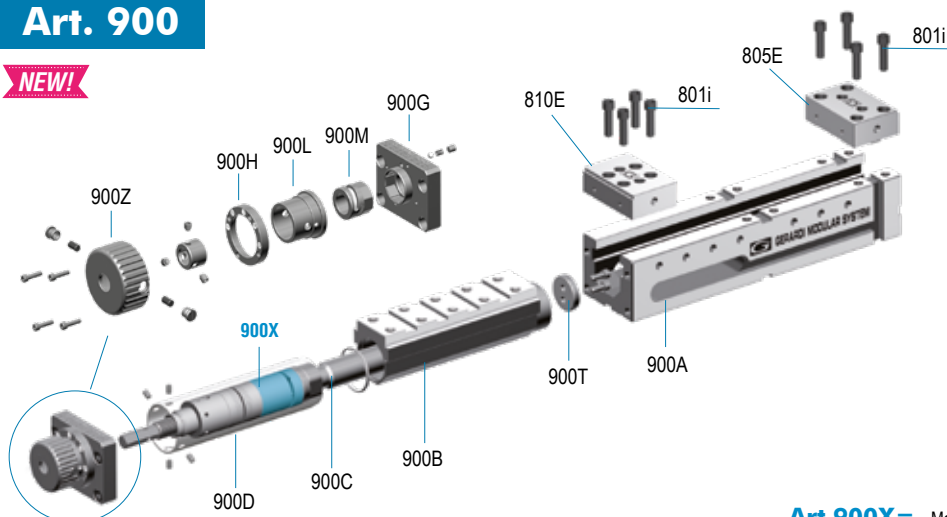
Posizioni ghiera limitatore / Fixed nut positions

**MORSE FMS TIPO 5  
FMS VISES TYPE 5**

VITE: Ø 24 mm / Ø 30 mm PASSO: 2 mm  
 SCREW: Ø 24 mm / Ø 30 mm PITCH: 2 mm  
 Chiave dinamometrica / Torque wrench


**1st 2nd 3rd 4th 5th**

Posizioni ghiera limitatore / Fixed nut positions

**Art. 900**
**NEW!**

**Art. Pag.**
**900Y** 38

**810E** 57

**805E** 55

**Art.900X=** Modulo per serraggio meccanico - Module for mechanical clamping

Tipo (grandezza) morsa / Vise type (size)	kN	1		2				3	
		25 kN		25 kN				30 kN	
Apertura massima / Max. opening	A	85	185	170	270	370	470	230	330
<b>Art. 800C</b> Cubo-morsa FMS con ganasce piane per il serraggio di 4 pezzi FMS vise tower with straight jaws for 4 clamping stations	A1	115		130				170	
	B	25		30				40	
	D	200	300	300	400	500	600	400	500
	E	232	332	320	420	520	620	425	525
	G1	120		175				210	
	L	300		350				400	
	M	33		33				38	
	W	74		94				124	
	kg	30	45	53	70	88	106	90	112

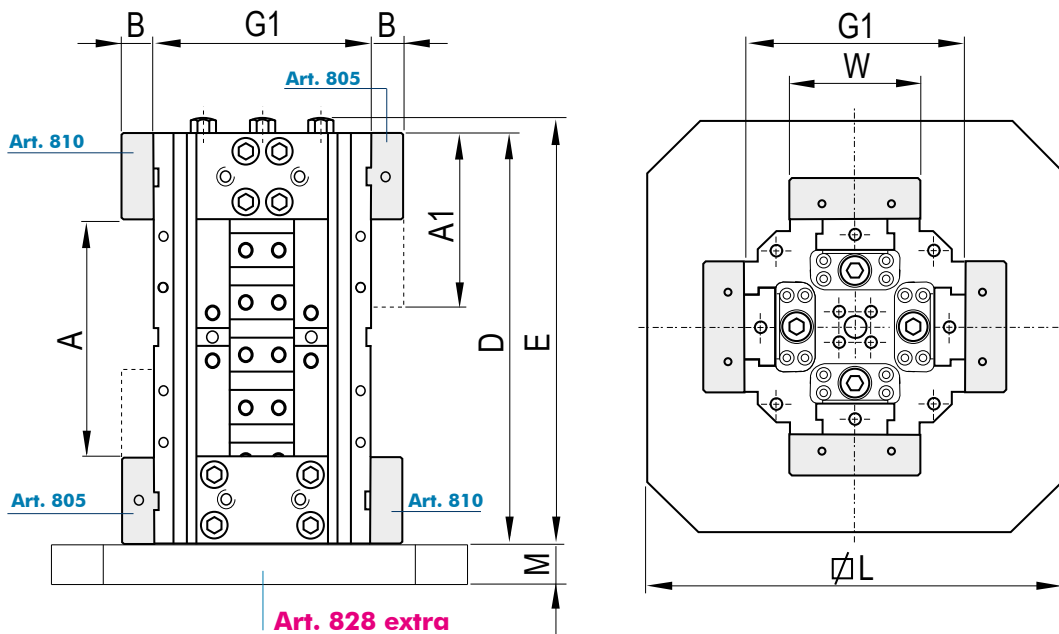


Cod. 5.80.0C120 5.80.0C130 5.80.0C230 5.80.0C240 5.80.0C250 5.80.0C260 5.80.0C340 5.80.0C350

**SPECIFICA SOLO PER SERRAGGI SINGOLI**  
 SPECIFIC FOR SINGLE CLAMPING ONLY

Questa morsa, pur essendo parte del programma FMS, non è predisposta per serraggi doppi o autocentranti

**GANASCE REVERSIBILI**  
**REVERSIBLE JAWS**

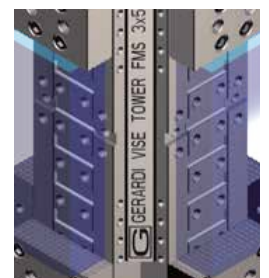


**Dotazione standard per Art. 800C**

- 1 chiave a pipa Art. 375
- 4 arresti laterali Art. 370
- 2 coppie di tasselli di posizionamento precisi Art. 297
- 1 golfare di sollevamento Art. 848
- Imballo in cassa di legno

**Standard equipment for Art. 800C**

- 1 box wrench Art. 375
- 4 workstops Art. 370
- 2 pair of precision positioning key-nuts Art. 297
- 1 lifting hook Art. 848
- Wooden box packaging





3 30 kN			4 30 kN				5 32 kN			6 32 kN		
430	530	630	300	400	500	600	380	480	580	480	580	680
170		509					630			810		
40		50					60			60		
600	700	800	500	600	700	800	600	700	800	800	900	1000
625	725	825	525	625	725	825	625	725	825	825	925	1025
210		245					280			290		
400		450					500			550		
38		38					38			38		
124		144					169			189		
135	157	180	180	210	252	288	260	303	340	500	562	625

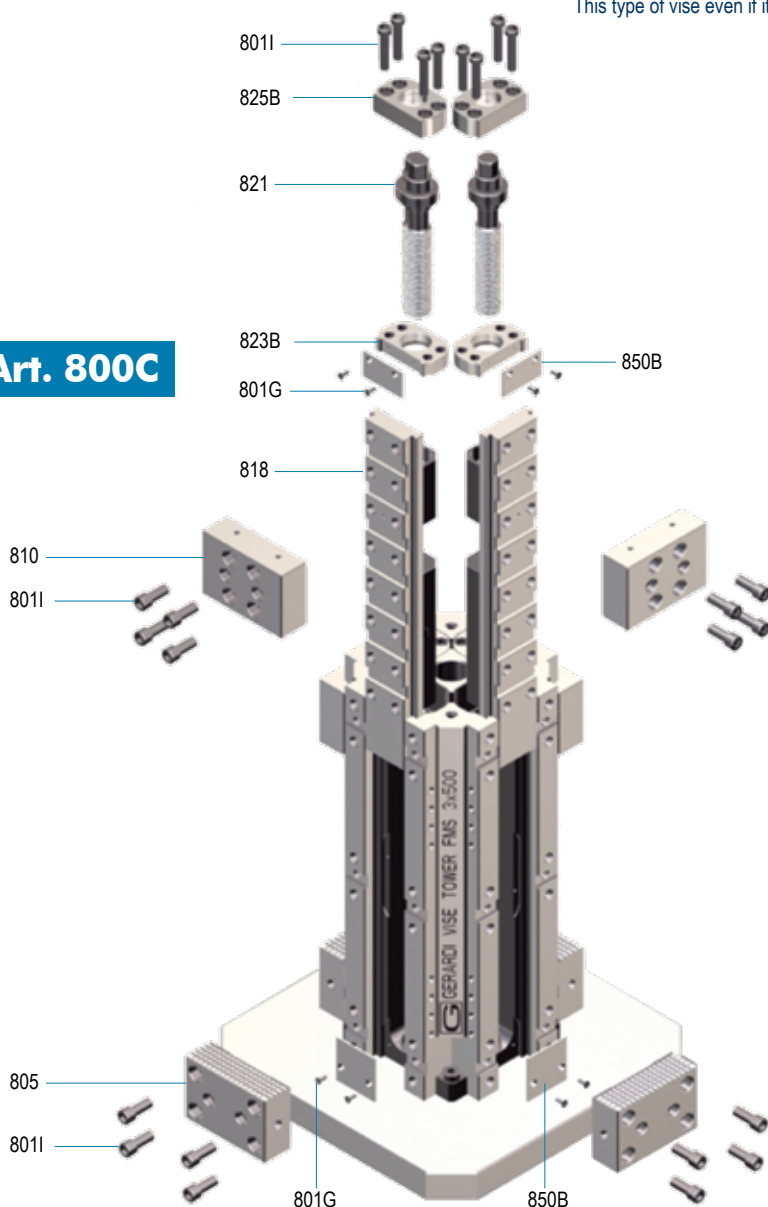
5.80.0C360 5.80.0C370 5.80.0C380 5.80.0C450 5.80.0C460 5.80.0C470 5.80.0C480 5.80.0C560 5.80.0C570 5.80.0C580 5.80.0C680 5.80.0C690 5.80.0C610

This type of vise even if it is part of the FMS series is not suitable for double or self-centering clamping

**GANASCE REVERSIBILI**  
**REVERSIBLE JAWS**

**Art. 800C**

Esplodo di cubo-morsa FMS con ganasce piane per il serraggio di 4 pezzi  
 Explode of FMS vise tower with straight jaws for 4 clamping stations



Art.	Pag.	Art.	Pag.
<b>801G</b>	5.61	-	-
<b>8011</b>	5.61	-	-
<b>810</b>	5.56	-	-
<b>818</b>	5.50	-	-
<b>821</b>	5.52	-	-
<b>823B</b>	5.59	-	-
<b>825B</b>	5.59	-	-
<b>850B</b>	5.61	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Tipo (grandezza) morsa / Vise type (size)	kN	1		2				3	
		25 kN		25 kN				30 kN	
Apertura massima / Max. opening	A	2 x 16	2 x 66	2 x 54	2 x 104	2 x 154	2 x 204	2 x 74	2 x 124
<b>Art. 860C</b>	B	25		30				40	
	D	200	300	300	400	500	600	400	500
	E	232	332	320	420	520	620	425	525
	G1	120		175				210	
	L	300		350				400	
	M	33		33				38	
	W	74		94				124	
	kg	30	45	53	70	88	106	90	112
	Cod.	5.86.0C120	5.86.0C130	5.86.0C230	5.86.0C240	5.86.0C250	5.86.0C260	5.86.0C340	5.86.0C350

**3 MORSE IN 1**  
**VISES IN 1**

Cubo-morsa FMS doppio per il serraggio di 8 pezzi



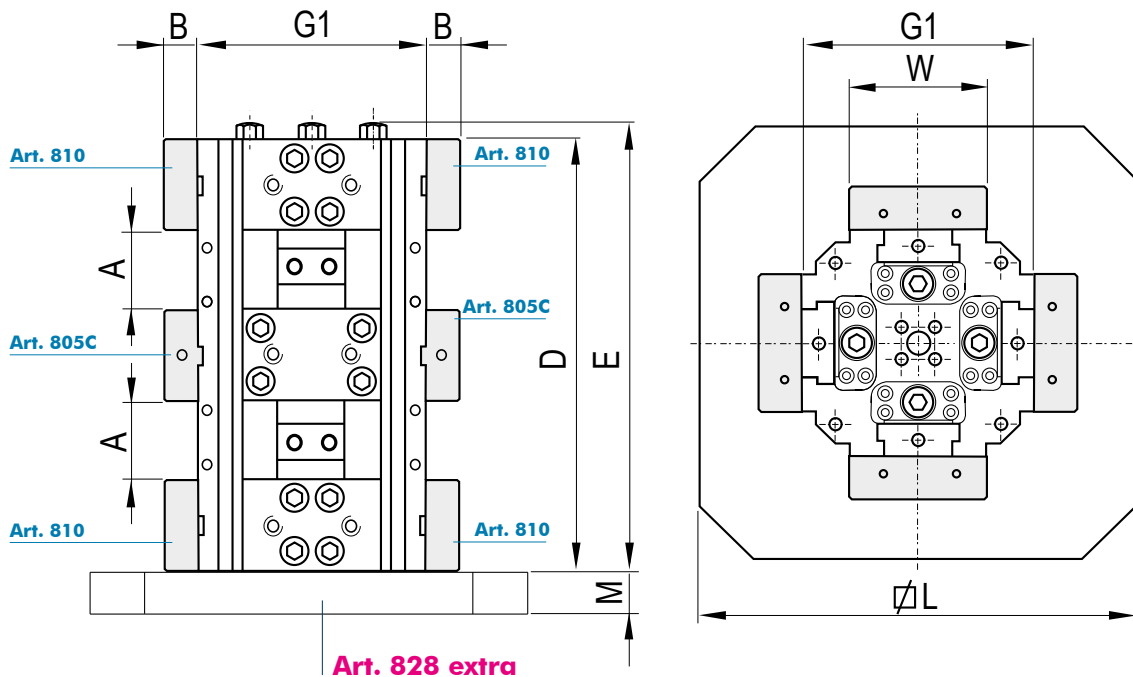
Double FMS vise tower for 8 clamping stations

### Art. 855C

Modulo base cubo morsa FMS doppia (senza ganasce)  
FMS Double vise tower base (without jaws)

Cod.	5.85.5C120	5.85.5C130	5.85.5C230	5.85.5C240	5.85.5C250	5.85.5C260	5.85.5C340	5.85.5C350
------	------------	------------	------------	------------	------------	------------	------------	------------

**GANASCE REVERSIBILI**  
**REVERSIBLE JAWS**

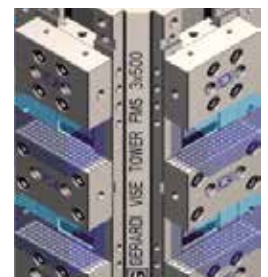


**Dotazione standard per Art. 860C**

- 1 chiave a pipa Art. 375
- 4 arresti laterali Art. 370
- 2 coppie di tasselli di posizionamento precisi Art. 297
- 1 golphare di sollevamento Art. 848
- Imballo in cassa di legno
- Meccanismo 3<sup>a</sup> mano

**Standard equipment for Art. 860C**

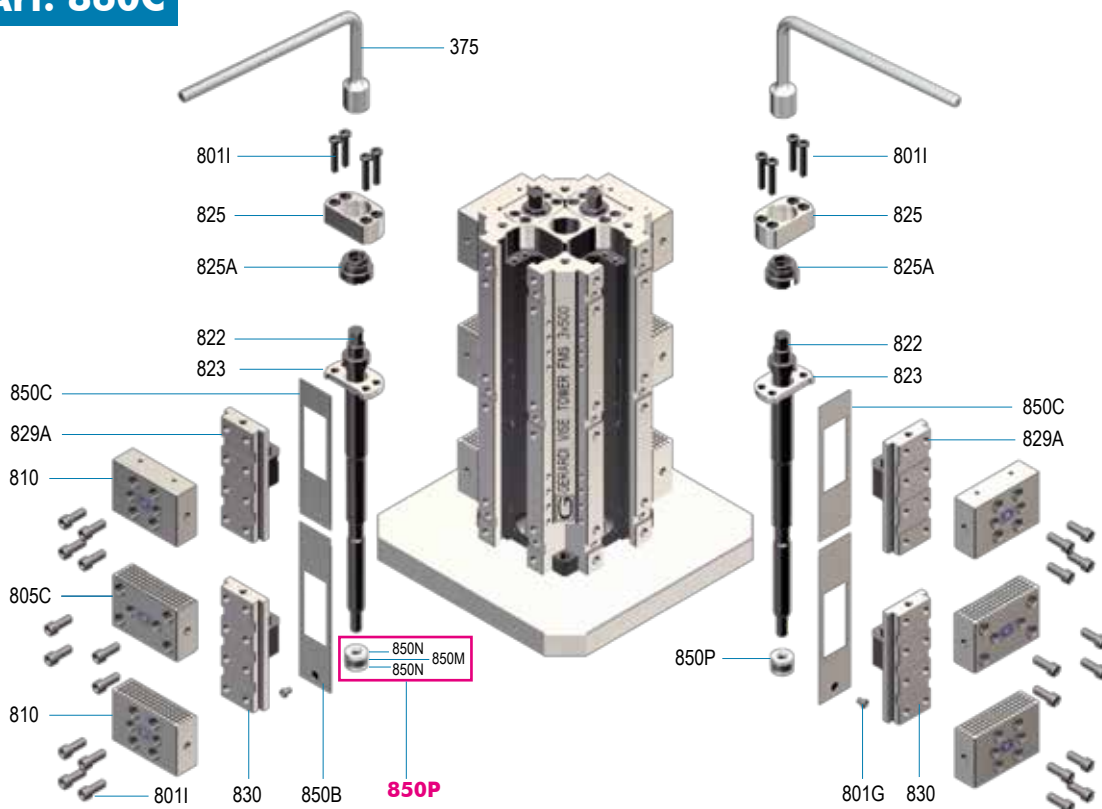
- 1 box wrench Art. 375
- 4 workstops Art. 370
- 2 pair of precision positioning key-nuts Art. 297
- 1 lifting hook Art. 848
- Wooden box packaging
- Third hand device



3 30 kN			4 30 kN				5 32 kN			6 32 kN		
2 x 174	2 x 224	2 x 274	2 x 103	2 x 153	2 x 203	2 x 253	2 x 138	2 x 188	2 x 238	2 x 238	2 x 288	2 x 338
40			50				60			60		
600	700	800	500	600	700	800	600	700	800	800	900	1000
625	725	825	525	625	725	825	625	725	825	825	925	1025
210			245				280			290		
400			450				500			550		
38			38				38			38		
124			144				169			189		
135	157	180	180	210	252	288	260	303	340	500	562	625
5.86.0C360	5.86.0C370	5.86.0C380	5.86.0C450	5.86.0C460	5.86.0C470	5.86.0C480	5.86.0C560	5.86.0C570	5.86.0C580	5.86.0C680	5.86.0C690	5.86.0C610
5.85.5C360	5.85.5C370	5.85.5C380	5.85.5C450	5.85.5C460	5.85.5C470	5.85.5C480	5.85.5C560	5.85.5C570	5.85.5C580	5.85.5C680	5.85.5C690	5.85.5C610

**GANASCE REVERSIBILI**  
**REVERSIBLE JAWS**

### Art. 860C

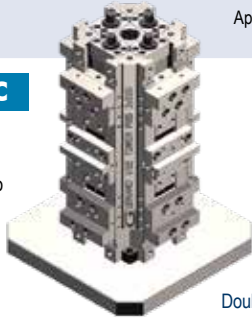


Art.	Pag.
<b>375</b>	4.31
<b>801G</b>	5.61
<b>801I</b>	5.61
<b>805C</b>	5.54
<b>810</b>	5.56
<b>822</b>	5.52
<b>823</b>	5.59
<b>825</b>	5.59
<b>825A</b>	5.61
<b>829A</b>	5.50
<b>830</b>	5.50
<b>850B</b>	5.61
<b>850C</b>	5.61
<b>850P</b>	5.61
-	-
-	-
-	-

Tipo (grandezza) morsa / Vise type (size)	kN	1		2				3	
		25 kN		25 kN				30 kN	
Apertura massima Max. opening	A	2 x 60	2 x 110	2 x 118	2 x 168	2 x 218	2 x 268	2 x 162	2 x 212

**Art. 863C**

Cubo morsa FMS doppio con ganasce a gradino per il serraggio di 8 pezzi



Double FMS vise tower with step-type jaws for 8 clamping stations

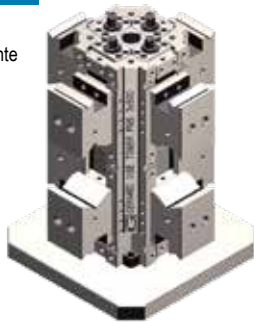
Cod.	5.86.3C120	5.86.3C130	5.86.3C230	5.86.3C240	5.86.3C250	5.86.3C260	5.86.3C340	5.86.3C350

∅ Apertura Minima / Massima  
∅ Minimum - Max Opening

A	10 / 25	10 / 50				25 / 100		

**Art. 870C**

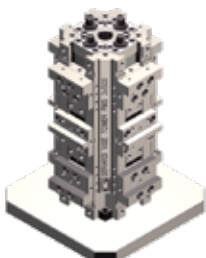
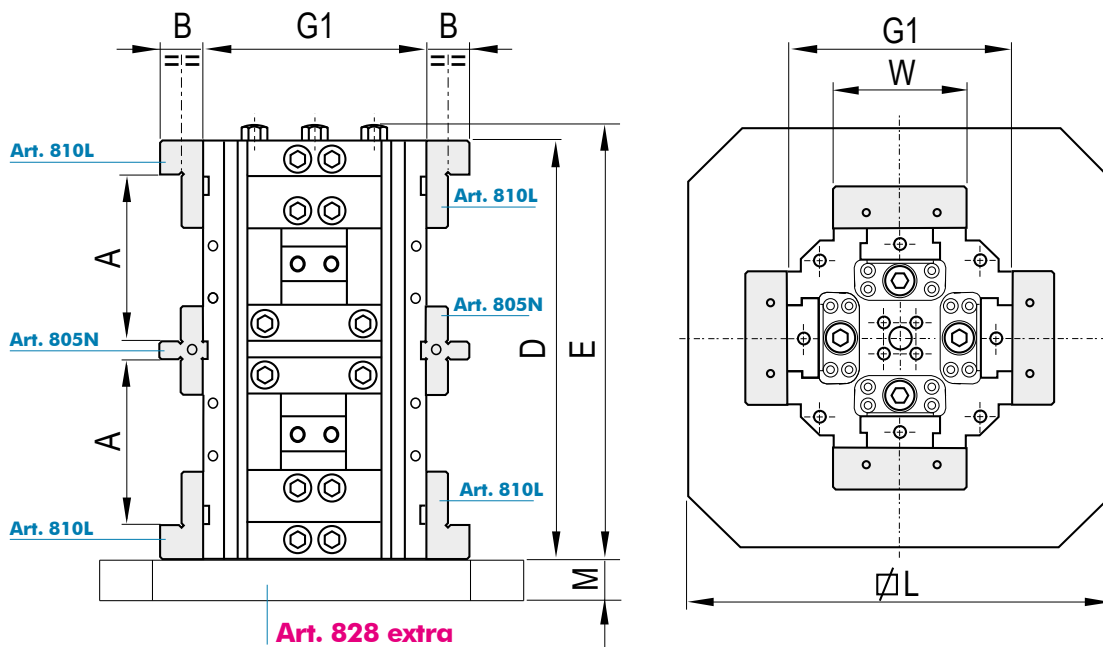
Cubo morsa FMS autocentrante con ganasce prismatiche



Self-centering FMS vise tower with prismatic jaws

Cod.	5.87.0C120	5.87.0C130	5.87.0C230	5.87.0C240	5.87.0C250	5.87.0C260	5.87.0C340	5.87.0C350

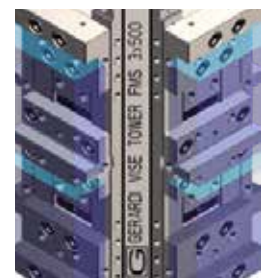
D	200	300	300	400	500	600	400	500
E	232	332	320	420	520	620	425	525
G1	120			175			210	
L	300			350			400	
M	33			33			38	
W	74			94			124	
W1	60			75			100	
kg	42	63	68	90	113	130	118	147


**Dotazione standard per Art. 863C e Art. 870C:**

- 1 chiave a pipa Art. 375
- 4 arresti laterali Art. 370
- 2 coppie di tasselli di posizionamento precisi Art. 297
- 1 golphare di sollevamento Art. 848
- Imballo in cassetta di legno
- Meccanismo 3<sup>a</sup> mano

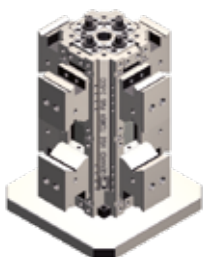
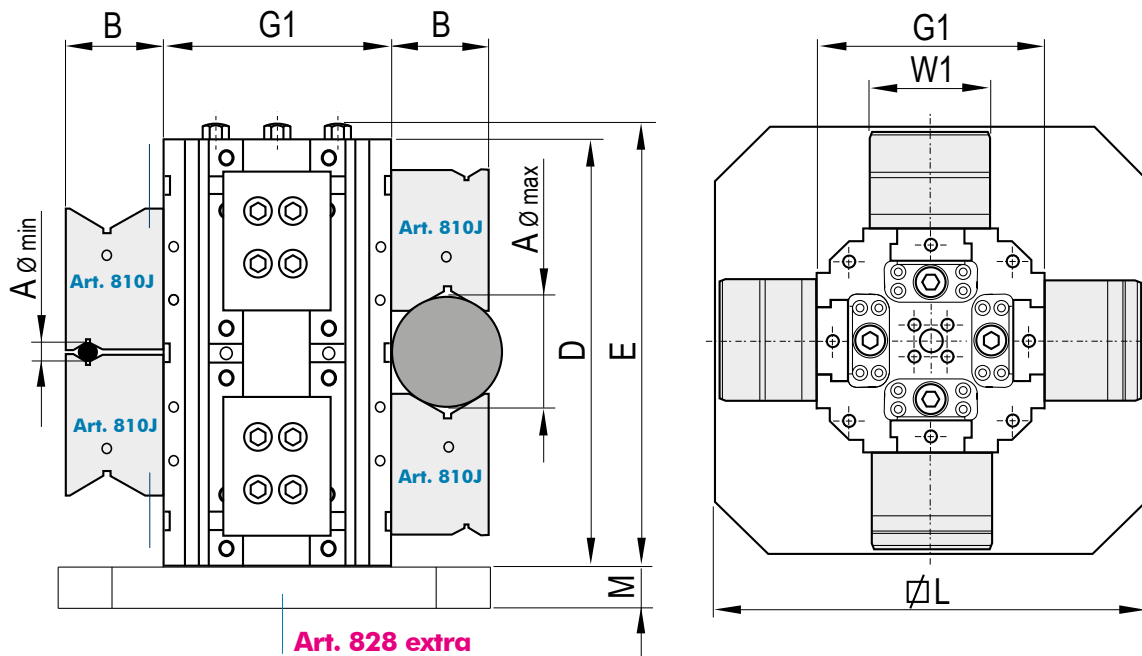
**Standard equipment for Art. 863C and Art. 870C:**

- 1 box wrench Art. 375
- 4 workstops Art. 370
- 2 pair of precision positioning key-nuts Art. 297
- 1 lifting hook Art. 848
- Packaging wooden box
- Third hand device



3 30 kN			4 30 kN				5 32 kN			6 32 kN		
2 x 262	2 x 312	2 x 362	2 x 204	2 x 254	2 x 304	2 x 354	2 x 254	2 x 304	2 x 354	2 x 354	2 x 404	2 x 454
5.86.3C360	5.86.3C370	5.86.3C380	5.86.3C450	5.86.3C460	5.86.3C470	5.86.3C480	5.86.3C560	5.86.3C570	5.86.3C580	5.86.3C680	5.86.3C690	5.86.3C610

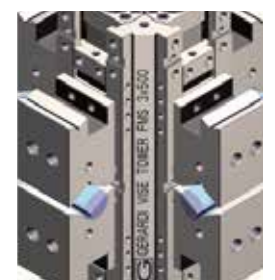
25 / 100			30 / 150				35 / 200			40 / 300		
5.87.0C360	5.87.0C370	5.87.0C380	5.87.0C450	5.87.0C460	5.87.0C470	5.87.0C480	5.87.0C560	5.87.0C570	5.87.0C580	5.87.0C680	5.87.0C690	5.87.0C610
600	700	800	500	600	700	800	600	700	800	800	900	1000
625	725	825	525	625	725	825	625	725	825	825	925	1025
	210				245				280		290	
	400				450				500		550	
	38				38				38		38	
	124				144				169		189	
	100				132				140		160	
177	206	236	242	290	339	388	328	383	437	656	738	820


**Dotazione standard per Art. 863C e Art. 870C:**

- 1 chiave a pipa Art. 375
- 4 arresti laterali Art. 370
- 2 coppie di tasselli di posizionamento precisi Art. 297
- 1 golfare di sollevamento Art. 848
- Imballo in cassetta di legno
- Meccanismo 3<sup>a</sup> mano

**Standard equipment for Art. 863C and Art. 870C:**

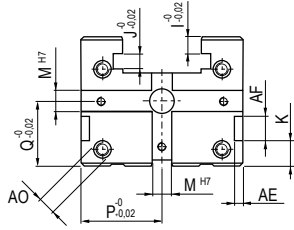
- 1 box wrench Art. 375
- 4 workstops Art. 370
- 2 pair of precision positioning key-nuts Art. 297
- 1 lifting hook Art. 848
- Packaging wooden box
- Third hand device



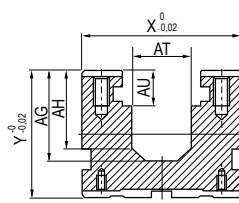
**Tipo (grandezza) morsa / Vise type (size)**

	1		2	
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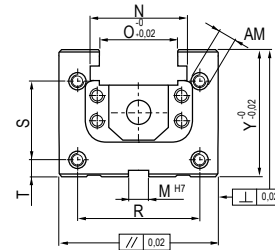
**Art. 801**

 Base morsa FMS. Disegni e tabella dimensionale  
 FMS vise base body. Drawing and table dimension


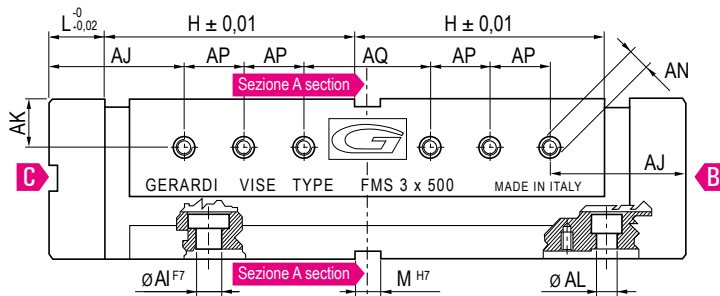
Vista da C / Side C



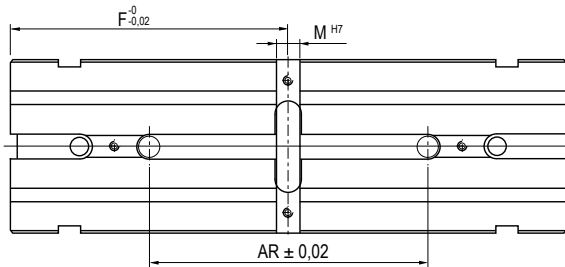
Sezione AA / AA section



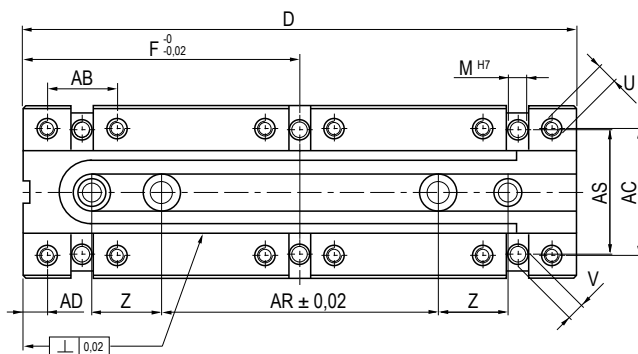
Vista da B / Side B



Vista dal basso / Show bottom



Vista dall'alto / Show top



kg	4,7	7,3	12,8	19
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Cod.	5.80.11200	5.80.11300	5.80.12300	5.80.12400
------	------------	------------	------------	------------

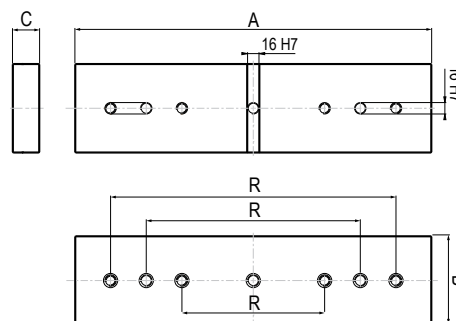
	1		2	
D	200	300	300	400
F	100	150	150	200
H	71	121	117	167
I	10		13	
J	10		12	
K	15		20	
L	21		25	
M	16		16	
N	45		53	
O	35		41	
P	37,5		47,5	
Q	35		45	
R	52		70	
S	30		48	
T	20		22	
U	M8		M10	
V	M8		M10	
Z	50		50	
X	75		95	
Y	70		90	
AB	32		40	
AC	56		70	
AD	13		13	
AE	4		6	
AF	16		16	
AG	49		62	
AH	41		53	
AI	Ø 16 X 2		Ø 16 X 2	
AJ	55		65	
AK	20		27	
AL	Ø 11		Ø 13	
AM	n°0	n°2	n°2	n°2
AN	M10		M10	
AO	n°8	n°12	n°12	n°16
AP	M10		M10	
AQ	20	25	50	
AR	50	70	70	
AS	100	200	200	
AT	56		68	
AU	28		34	
	23		28	

**PIASTRE D'INTERFACCIA Art.62 per morsa FMS**  
**CONNECTING PLATES Art.62 for FMS vises**
**NEW!**
**Tipo (grandezza) morsa / Vise type (size)**

	1		2	
--	---	--	---	--

**Art. 62**
**FMS**

 Piastra di interfaccia  
 Zero Point per morsa FMS

 Zero Point connecting  
 plate for FMS vises


A	232	332	300	400
B	75		95	
C	38		38	
R	200 / 300		200 / 300 / 400	
kg	5	7	11	13,4

Cod.	5.62.12000	5.62.13000	5.62.23000	5.62.24000
------	------------	------------	------------	------------

2		3					4				5			6		
23	27	26	31	39	46	52	47	56	65	75	71	82	94	140	156	174
5.80.12500	5.80.12600	5.80.13400	5.80.13500	5.80.13600	5.80.13700	5.80.13800	5.80.14500	5.80.14600	5.80.14700	5.80.14800	5.80.15600	5.80.15700	5.80.15800	5.80.16800	5.80.16900	5.80.16100

500	600	400	500	600	700	800	500	600	700	800	600	700	800	800	900	1000
250	300	200	250	300	350	400	250	300	350	400	300	350	400	400	450	500
217	267	157	207	257	307	357	200	250	300	350	245	295	345	345	395	445
13				13					20			20			20	
12				12					18			18			18	
20				20					20			26			26	
25				35					42			47			47	
16				16					16			16			16	
53				76					86			96			110	
41				61					71			82			94	
47,5				62,5					72,5			85			95	
45				50					60			70			80	
70				92					108			126			144	
48				62					72			92			100	
22				13					16			18			20	
M10				M12					M16			M16			M20	
M10				M12					M12			M12			M12	
50				50					50			50			50	
95				125					145			170			190	
90				100					120			140			160	
40				50					60			68			68	
70				92					108			126			144	
13				18					20			21			20	
6				6					10			10			10	
16				16					16			16			16	
62				72					80			95			105	
53				62					70			82			95	
Ø 16 x 2				Ø 16 x 2					Ø 16 x 2			Ø 16 x 2			Ø 16 x 2	
65				100					100			100			125	
27				32					40			48			58	
Ø 13				Ø 13					Ø 13			Ø 17			Ø 17	

n° 4	n° 6	n° 2	n° 4	n° 6	n° 8	n° 10	n° 4	n° 6	n° 8	n° 10	n° 6	n° 8	n° 10	n° 10	n° 12	n° 14
M10				M12					M12			M16			M20	
M10				M10M					M10			M10				
n° 20	n° 24	n° 8	n° 12	n° 16	n° 20	n° 24	n° 12	n° 16	n° 20	n° 24	n° 16	n° 20	n° 24	n° 24	n° 28	n° 32
M10				M12					M16			M16			M20	
50				50					50			50			50	
70				100					100			100			125	
200				200					200		400	400	600	400	400	400
68				92					106			126			144	
34				44					44			52			49	
28				28					41			41			41	

## PIASTRE D'INTERFACCIA Art.62 per morse FMS

### CONNECTING PLATES Art.62 for FMS vises



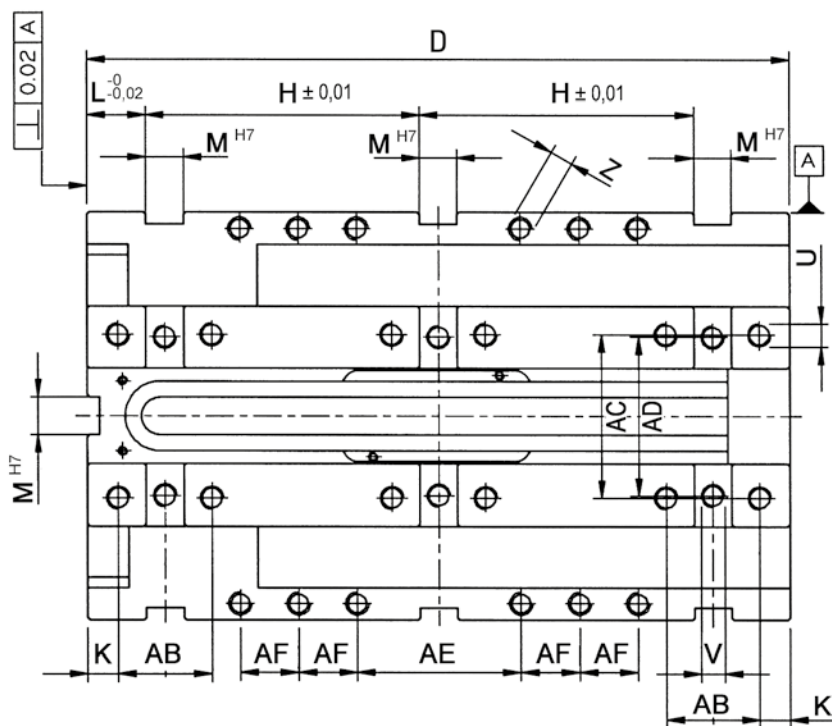
2		3					4				5			6		
500	600	400	500	600	700	800	500	600	700	800	600	700	800	800	900	1000
95				125					145			170			190	
38				38					38			38			38	
200 / 300 / 400				200 / 300 / 400					200 / 300 / 400			200 / 300 / 400			200 / 300 / 400	
16,1	18,9	13,9	17,8	21,5	25,1	28,5	20,8	25	29,3	33,5	29	34	39	44	49	55
5.62.25000	5.62.26000	5.62.34000	5.62.35000	5.62.36000	5.62.37000	5.62.38000	5.62.45000	5.62.46000	5.62.47000	5.62.48000	5.62.56000	5.62.57000	5.62.58000	5.62.68000	5.62.69000	5.62.61000

**Tipo (grandezza) morsa / Vise type (size)**
**1**
**2**
**Art. 804**

 Corpo base cubo FMS. Disegni e tabella dimensionale  
 FMS cube base body. Drawing and table dimension

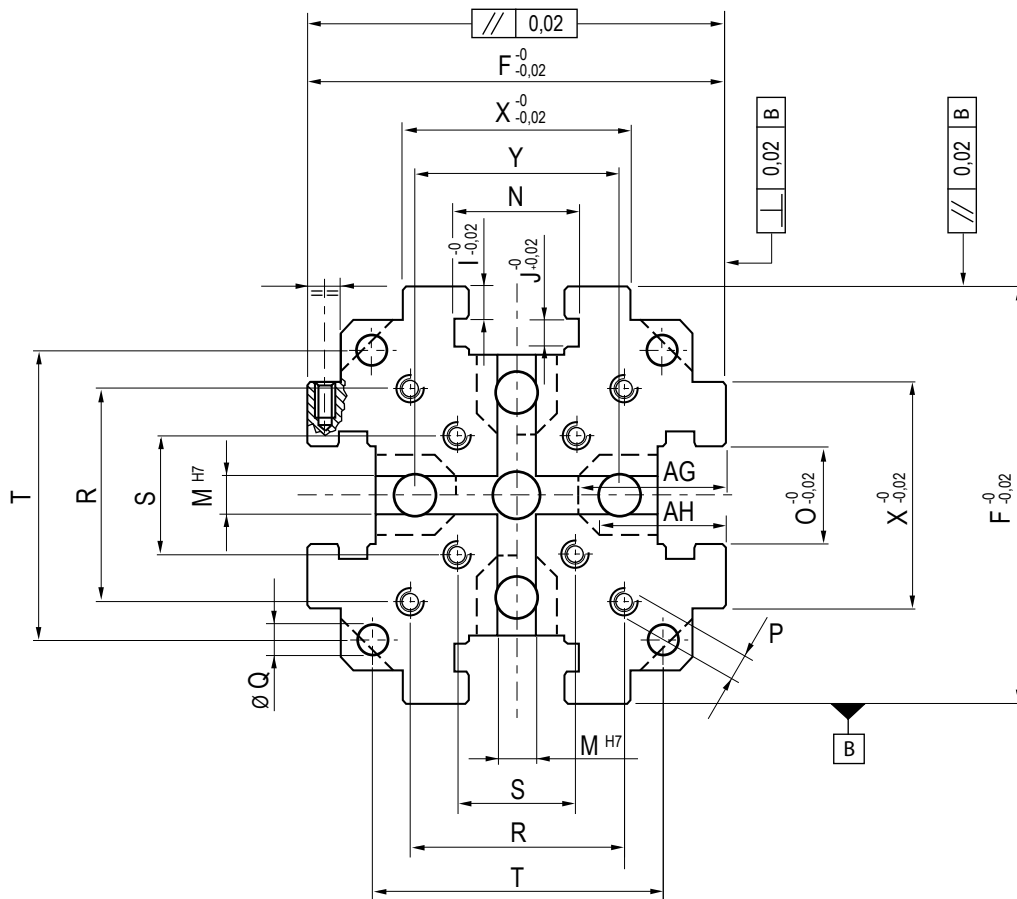

Cod. 5.80.41200 5.80.41300 5.80.42300 5.80.42400

	200	300	300	400
D	200	300	300	400
F	140		175	
H	71	121	117	167
I	10		13	
J	10		12	
K	13		13	
L	21		25	
M	16		16	
N	45		53	
O	35		41	
P	M10		M12	
Q	11		13	
R	-		100	
S	-		40	
T	-		120	
U	M8		M10	
V	M8		M10	
Z	M10		M10	
X	75		95	
Y	70		85	
AB	32		40	
AC	56		70	
AD	56		68	
AE	50	70	70	
AF	10	25	50	
AG	49		62	
AH	41		53	





2		3					4				5			6		
5.80.42500	5.80.42600	5.80.43400	5.80.43500	5.80.43600	5.80.43700	5.80.43800	5.80.44500	5.80.44600	5.80.44700	5.80.44800	5.80.45600	5.80.45700	5.80.45800	5.80.46800	5.80.46900	5.80.46100
500	600	400	500	600	700	800	500	600	700	800	600	700	800	800	900	1000
175				210					245			280			290	
217	267	157	207	257	307	357	200	250	300	350	245	295	345	345	395	445
13				13					20			20			20	
12				12					18			18			18	
13				18					20			21			21	
25				35					42			47			47	
16				16					16			16			16	
53				76					86			96			110	
41				61					71			82			94	
M12				M12					M16			M16			M20	
13				13					13			17			17	
100				120					150			150			150	
40				40					40			50			50	
120				150					170			210			210	
M10				M12					M16			M16			M20	
M10				M12					M12			M12			M12	
M10				M10					M10			M10			M10	
95				125					145			170			190	
85				110					125			140			130	
40				50					60			68			68	
70				92					108			126			144	
68				92					106			126			144	
70				100					100			100			125	
50				50					50			50			50	
62				62					80			95			105	
53				72					70			82			95	



Tipo (grandezza) morsa / Vise type (size)	1		2	
---	---	--	---	--

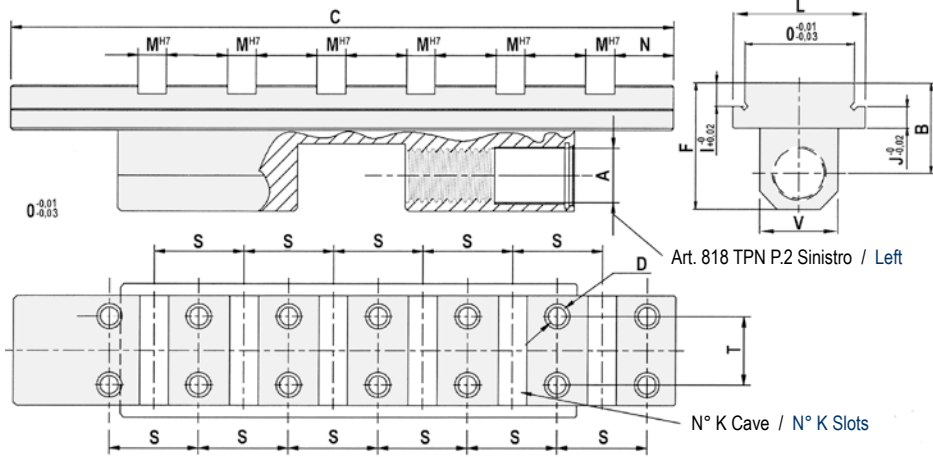
Larghezza base / Base length	200	300	300	400
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### Art. 818

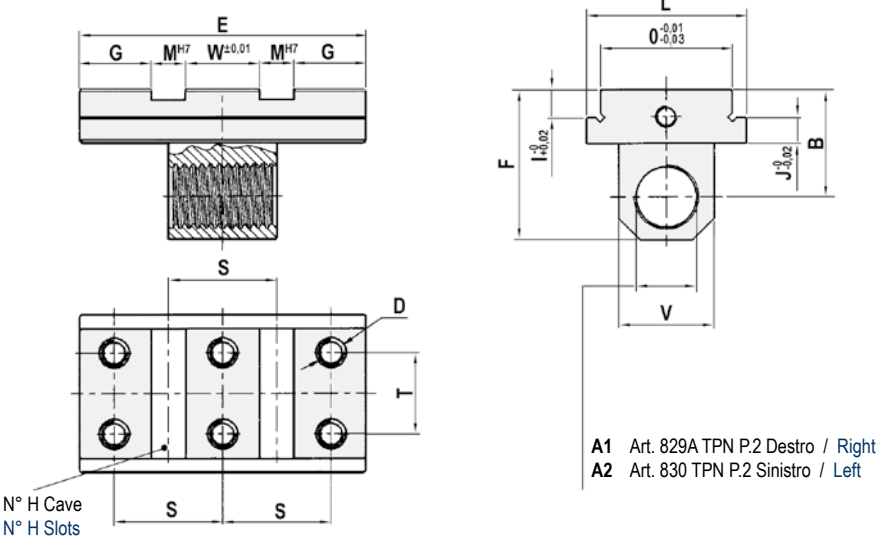
Slitta integrale lunga / Solid long slide



Cod.	5.81.81200	5.81.81300	5.81.82300	5.81.82400
------	------------	------------	------------	------------



A	18	24		
A1	18	18		
A2	24	24		
B	35	45		
C	170	264	256	356
D	M8	M10		
E	72	116	102	142
F	48,5	61,5		
G	15	18	23	
H	2	3	2	3
I	10	13		
J	10	12		
K	-	-	5	7
L	44	51		
M	16	16		
N	20	23		
O	35	41		
S	26	32	40	
T	20	25		
V	27	33		
W	10	16	24	



### Art. 829A

Slitta con filetto sinistro / Slide Right Hand



Cod.	5.82.9A120	5.82.9A130	5.82.9A230	5.82.9A240
------	------------	------------	------------	------------

### Art. 830

Slitta con filetto destro / Slide Left Hand

Cod.	5.83.01200	5.83.01300	5.83.02300	5.83.02400
------	------------	------------	------------	------------

2		3					4				5			6		
500	600	400	500	600	700	800	500	600	700	800	600	700	800	800	900	1000
5.81.82500	5.81.82600	5.81.83400	5.81.83500	5.81.83600	5.81.83700	5.81.83800	5.81.84500	5.81.84600	5.81.84700	5.81.84800	5.81.85600	5.81.85700	5.81.85800	5.81.86800	5.81.86900	5.81.86100

24	30					30				36			36			
18	24					24				30			30			
24	30					30				36			36			
45	50					60				70			80			
456	556	346	446	546	646	746	435	535	635	735	525	625	725	725	825	925
M10		M12					M16				M16			M20		
182	222	132	182	232	282	332	156	216	276	336	174	242	310	242	310	378
61,5		71					80				95			106		
23		33					40				45			45		
4	5	2	3	4	5	6	2	3	4	5	2	3	4	3	4	5
13		13					20				20			20		
12		12					18				18			18		
9		5					5				6			9		
51		74					84				95			108		
16		16					16				16			16		
23		33					40				45			45		
41		61					71				82			94		
40		50					60				68			68		
25		38					44				44			54		
33		43					43				51			48		
24		34					44				52			52		

5.82.9A250 5.82.9A260 5.82.9A340 5.82.9A350 5.82.9A360 5.82.9A370 5.82.9A380 5.82.9A450 5.82.9A460 5.82.9A470 5.82.9A480 5.82.9A560 5.82.9A570 5.82.9A580 5.82.9A680 5.82.9A690 5.82.9A610

5.83.02500 5.83.02600 5.83.03400 5.83.03500 5.83.03600 5.83.03700 5.83.03800 5.83.04500 5.83.04600 5.83.04700 5.83.04800 5.83.05600 5.83.05700 5.83.05800 5.83.06800 5.83.06900 5.83.06100

**Tipo (grandezza) morsa / Vise type (size)**
**1**
**2**

Larghezza base / Base length

200

300

300

400

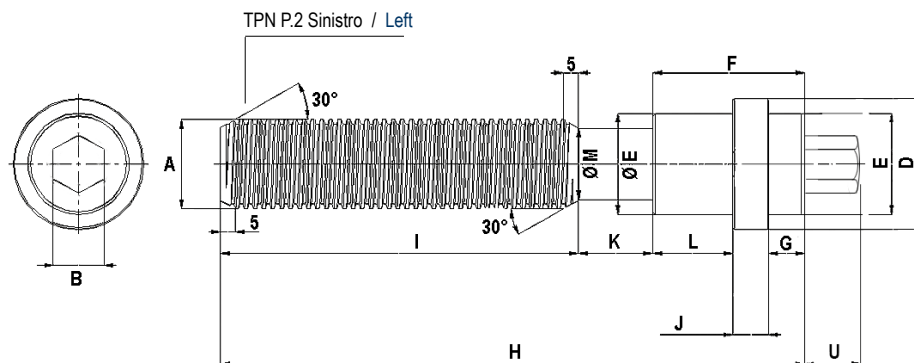
Cod.

5.82.11300

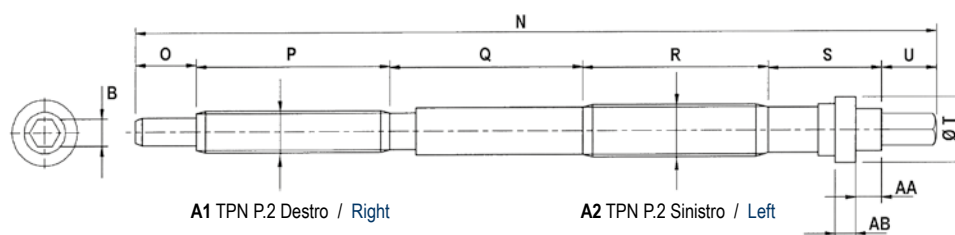
5.82.12600

**Art. 821**


Vite di bloccaggio con filetto sinistro / Main screw left thread



A	18	24		
A1	18	18		
A2	20	24		
B	16	16		
D	35	35		
E	20	25		
F	82	33		
G	13	12		
H	152	135		
I	65	90		
J	14	12		
K	5	12		
L	55	9		
M	14	19		
N	242	333	308	399
O	12	17	25	32
P	65	84	84	98
Q	32	66	66	106
R	68	85	75	94
S	44	6	38	49
T	32	32		
U	21	15		
AA	10	10		
AB	10	10		


**Art. 822**

 Vite di bloccaggio con filetto destro e sinistro  
 Main screw right and left thread

 Viti con esagono maschio o femmina a seconda delle dimensioni  
 Screw available with external or internal hexagon

Cod. 5.82.21200 5.82.21300 5.82.22300 5.82.22400

2		3					4				5			6		
500	600	400	500	600	700	800	500	600	700	800	600	700	800	800	900	1000
5.82.12600		5.82.14800					5.82.14800				5.82.16100			5.82.16100		

24		30					30				36			36		
18		24					24				30			30		
24		30					30				36			36		
16		19					19				19			19		
35		45					45				48			48		
25		30					30				30			30		
33		42					42				115			115		
12		16					16				15			15		
135		136					186				225			225		
90		118					118				135			135		
12		15					15				20			20		
12		26					26				55			55		
9		11					11				80			80		
19		24					24				30			30		
500	600	414	499	599	699	822	499	599	699	797	610	700	790	790	881	961
52	52	25	35	54	87	121	35	54	87	121	47	71	101	101	81	100
116	151	123	123	140	124	118	123	140	124	118	176	158	140	140	205	187
134	164	82	132	160	226	282	132	160	226	282	124	192	256	256	245	308
116	136	118	118	140	124	118	118	140	124	118	176	158	140	140	205	187
62	77	41	66	80	113	136	66	80	113	136	62	96	128	128	120	154
32		38					38				45			45		
20		25					25				25			25		
10		15					15				22			22		
10		12					12				15			15		

5.82.22500 5.82.22600 5.82.23400 5.82.23500 5.82.23600 5.82.23700 5.82.23800 5.82.24500 5.82.24600 5.82.24700 5.82.24800 5.82.25600 5.82.25700 5.82.25800 5.82.26800 5.82.26900 5.82.26100

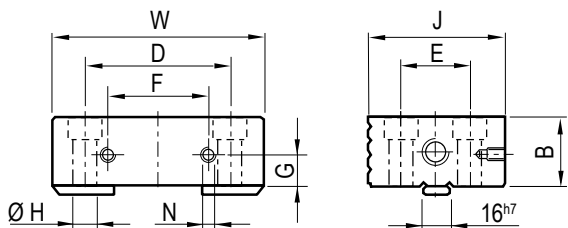
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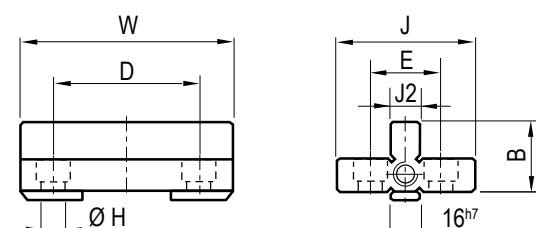
# GANASCE FISSE PER MORSE FMS

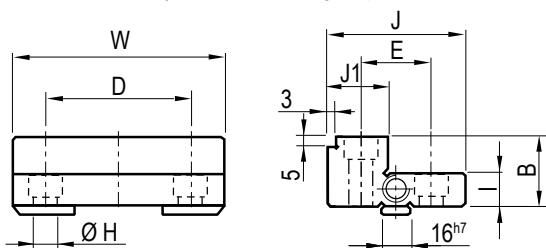
## FIXED JAWS FOR FMS VISES

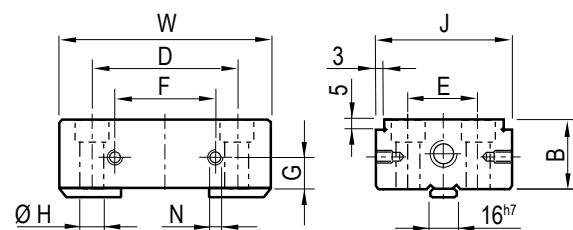
Tipo (grandezza) / Type (size)	1	2	3	4	5	6
<b>Art. 805*</b> Ganasia fissa zigrinata da un lato Fixed jaw one side serrated 	Cod. 5.80.51000	5.80.52000	5.80.53000	5.80.54000	5.80.55000	5.80.56000
<b>Art. 805A*</b> Ganasia fissa liscia Smooth fixed jaw 	Cod. 5.80.5A100	5.80.5A200	5.80.5A300	5.80.5A400	5.80.5A500	5.80.5A600
<b>Art. 805B*</b> Ganasia fissa dolce Soft fixed jaw 	Cod. 5.80.5B100	5.80.5B200	5.80.5B300	5.80.5B400	5.80.5B500	5.80.5B600
<b>Art. 805C*</b> Ganasia fissa zigrinata da ambo i lati Fixed jaw serrated on both sides 	Cod. 5.80.5C100	5.80.5C200	5.80.5C300	5.80.5C400	5.80.5C500	5.80.5C600
<b>Art. 870A*</b> <b>NEW!</b> Ganasia fissa intermedia alta Fixed Intermediate high jaw 	Cod. 5.87.0A100	5.87.0A200	5.87.0A300	5.87.0A400	5.87.0A500	5.87.0A600

**Art. 805**

 (Montata su Art. 860)  
 (Assembled on Art. 860)

**Art. 805N**

 (Montata su Art. 863)  
 (Assembled on Art. 863)

**Art. 805O**

 Ganasia fissa con gradino piccolo e grande  
 Fixed jaw with small and large step

**Art. 805F**

 (Montata su Art. 866)  
 (Assembled on Art. 866)


Tipo (grandezza) morsa / Vise (type) size

mm	1	2	3	4	5	6	Tolleranze Tolerance
W	74	94	124	144	169	189	-
J	56	64	84	98	108	108	-0,02
J1	24	24	30	38	38	38	-
J2	16	16	16	16	16	16	-
B	25	30	40	50	60	60	-0,02
D	56	70	92	108	126	144	-
E	32	40	50	60	68	68	-
F	40	50	65	65	65	100	-
G	10	10	15	20	25	25	-
H	9	11	13	17	17	22	-
I	12,5	15	20	25	30	30	-0,02
N	M5	M6	M6	M6	M6	M6	-

Tipo (grandezza) / Type (size)	1	2	3	4	5	6
<b>Art. 805D*</b> Ganascia fissa con gradino 3x5 zigrinata da un lato Fixed jaw with 3x5 step on side serrated						
Cod.	5.80.5D100	5.80.5D200	5.80.5D300	5.80.5D400	5.80.5D500	5.80.5D600
* Viti per fissaggio a richiesta Fixing screws on request						
<b>Art. 805E*</b> Ganascia fissa con gradino 3x5 liscia Fixed jaw with 3x5 step smooth						
Cod.	5.80.5E100	5.80.5E200	5.80.5E300	5.80.5E400	5.80.5E500	5.80.5E600
* Viti per fissaggio a richiesta Fixing screws on request						
<b>Art. 805F*</b> Ganascia fissa con doppio gradino 3x5 liscia Fixed jaw with double 3x5 step smooth						
Cod.	5.80.5F100	5.80.5F200	5.80.5F300	5.80.5F400	5.80.5F500	5.80.5F600
* Viti per fissaggio a richiesta Fixing screws on request						
<b>Art. 805G*</b> Ganascia fissa con doppio gradino 3x5 zigrinata Fixed jaw with double 3x5 step serrated						
Cod.	5.80.5G100	5.80.5G200	5.80.5G300	5.80.5G400	5.80.5G500	5.80.5G600
* Viti per fissaggio a richiesta Fixing screws on request						
<b>Art. 805H*</b> Ganascia fissa con prisma verticale Fixed jaw with vertical prism						
Cod.	5.80.5H100	5.80.5H200	5.80.5H300	5.80.5H400	5.80.5H500	5.80.5H600
* Viti per fissaggio a richiesta Fixing screws on request						
<b>Art. 805I*</b> Ganascia fissa con doppio prisma verticale Fixed jaw with double vertical prism						
Cod.	5.80.5I100	5.80.5I200	5.80.5I300	5.80.5I400	5.80.5I500	5.80.5I600
* Viti per fissaggio a richiesta Fixing screws on request						
<b>Art. 805J*</b> Ganascia fissa con prisma orizzontale Fixed jaw with horizontal prism						
Cod.	5.80.5J100	5.80.5J200	5.80.5J300	5.80.5J400	5.80.5J500	5.80.5J600
* Viti per fissaggio a richiesta Fixing screws on request						
<b>Art. 805K*</b> Ganascia fissa con doppio prisma orizzontale Fixed jaw with double horizontal prism						
Cod.	5.80.5K100	5.80.5K200	5.80.5K300	5.80.5K400	5.80.5K500	5.80.5K600
* Viti per fissaggio a richiesta Fixing screws on request						
<b>Art. 805L*</b> Ganascia fissa con gradino Step fixed jaw						
Cod.	5.80.5L100	5.80.5L200	5.80.5L300	5.80.5L400	5.80.5L500	5.80.5L600
* Viti per fissaggio a richiesta Fixing screws on request						
<b>Art. 805M*</b> Ganascia fissa con gradino zigrinata da un lato Step fixed jaw one side serrated						
Cod.	5.80.5M100	5.80.5M200	5.80.5M300	5.80.5M400	5.80.5M500	5.80.5M600
* Viti per fissaggio a richiesta Fixing screws on request						
<b>Art. 805N*</b> Ganascia fissa con doppio gradino Fixed jaw with double step						
Cod.	5.80.5N100	5.80.5N200	5.80.5N300	5.80.5N400	5.80.5N500	5.80.5N600
* Viti per fissaggio a richiesta Fixing screws on request						
<b>Art. 805O*</b> Ganascia fissa con gradino piccolo e grande liscia da un lato Fixed jaw with small and large step on side smooth						
Cod.	5.80.5O100	5.80.5O200	5.80.5O300	5.80.5O400	5.80.5O500	5.80.5O600
* Viti per fissaggio a richiesta Fixing screws on request						
<b>Art. 805P*</b> Ganascia fissa con gradino piccolo e grande zigrin. da un lato Fixed jaw with small and large step one side serrated						
Cod.	5.80.5P100	5.80.5P200	5.80.5P300	5.80.5P400	5.80.5P500	5.80.5P600
* Viti per fissaggio a richiesta Fixing screws on request						
<b>Art. 805Q*</b> Ganascia fissa doppia con gradino piccolo e grande Double fixed jaw with small and large step						
Cod.	5.80.5Q100	5.80.5Q200	5.80.5Q300	5.80.5Q400	5.80.5Q500	5.80.5Q600
* Viti per fissaggio a richiesta Fixing screws on request						
<b>Art. 805R*</b> Ganascia fissa in alluminio Fixed jaw aluminium						
Cod.	5.80.5R100	5.80.5R200	5.80.5R300	5.80.5R400	5.80.5R500	5.80.5R600
* Viti per fissaggio a richiesta Fixing screws on request						
<b>Art. 805T*</b> Ganascia fissa doppia GRIP per forti serraggi GRIP Double fixed jaw for strongest clamping						
Cod.	5.80.5T100	5.80.5T200	5.80.5T300	5.80.5T400	5.80.5T500	5.80.5T600
* Viti per fissaggio a richiesta Fixing screws on request						
<b>Art. 805DT*</b> <b>NEW!</b> Ganascia fissa a coda di rondine Dove tail fixed jaw						
Cod.	5.80.5DT10	5.80.5DT20	5.80.5DT30	5.80.5DT40	5.80.5DT50	5.80.5DT60
* Viti a richiesta - Screws on request      Richiedere scheda tecnica - Technical data sheet on request						

# GANASCE MOBILI PER MORSE FMS

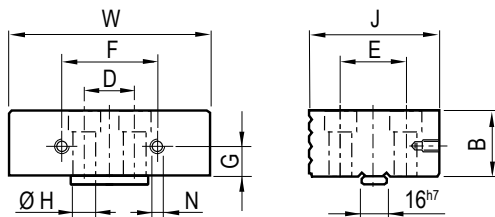
## MOVABLE JAWS FOR FMS VISES

Tipo (grandezza) / Type (size)	1	2	3	4	5	6
<b>Art. 810*</b> Ganascia mobile zigrinata da un lato Movable jaw one side serrated	Cod. 5.81.01000	5.81.02000	5.81.03000	5.81.04000	5.81.05000	5.81.06000
<b>Art. 810A*</b> Ganascia mobile liscia Smooth movable jaw	Cod. 5.81.0A100	5.81.0A200	5.81.0A300	5.81.0A400	5.81.0A500	5.81.0A600
<b>Art. 810B*</b> Ganascia mobile dolce Soft movable jaw	Cod. 5.81.0B100	5.81.0B200	5.81.0B300	5.81.0B400	5.81.0B500	5.81.0B600
<b>Art. 810D*</b> Ganascia mobile con gradino 3x5 zigrinata da un lato Movable jaw with 3x5 step on side serrated	Cod. 5.81.0D100	5.81.0D200	5.81.0D300	5.81.0D400	5.81.0D500	5.81.0D600
<b>Art. 814*</b> Base mobile per ganasce fisse Movable base for fixed jaws	Cod. 5.81.41000	5.81.42000	5.81.43000	5.81.44000	5.81.45000	5.81.46000

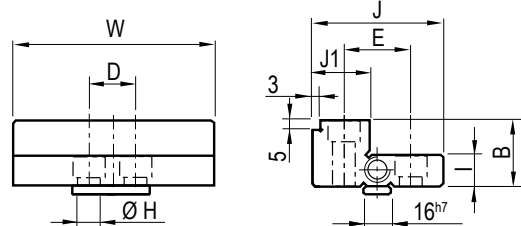
\* Viti per fissaggio a richiesta Fixing screws on request

Predisposizione per tutte le ganasce FMS fisse - Fit all FMS fixed jaws

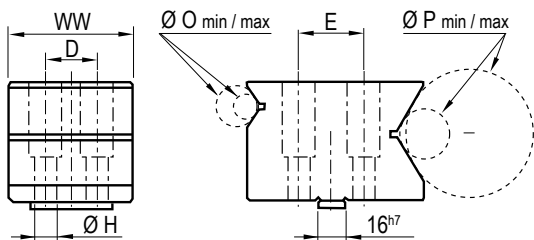
### Art. 810 (Montata su Art. 860) / (Assembled on Art. 860)



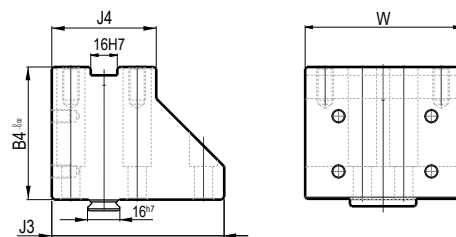
### Art. 810O Ganascia mobile con gradino piccolo e grande Movable jaw with small and large step



### Art. 810J (Montata su Art. 870) / (Assembled on Art. 870)



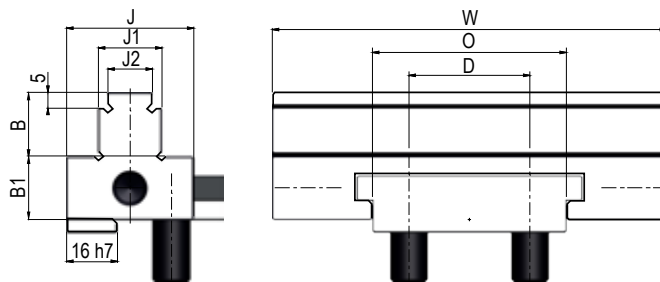
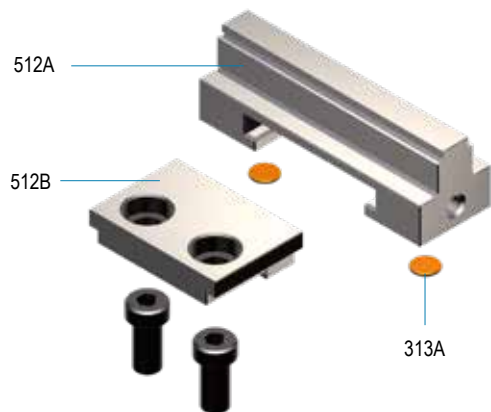
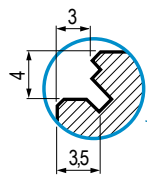
### Art. 814 Base mobile per ganasce fisse - Movable base for fixed jaws



Tipo / Type	1x200	1x300	2	3	4	5	6	Tolleranze Tolerance
W	74		94	124	144	169	189	-
WW	60		75	100	132	140	160	-
B	25		30	40	50	60	60	-0,02
B4	60		80	90	110	120	160	-0,02
D	20		25	38	44	44	54	-
E	26	32	40	50	60	68	68	-
F	40		50	65	65	65	100	-
G	10		10	15	20	25	25	-
H	9		11	13	17	17	22	-
I	12,5		15	20	25	30	30	-0,02
J	56		64	82	98	108	108	-0,02
J1	24		24	30	38	38	38	-0,02
J3	76	76	104	134	158	169	189	-
J4	55		63	83	97	106	107	-
N	M5		M6	M6	M6	M6	M6	-
Ø O	10 / 15		20 / 30	25 / 30	20 / 60	35 / 70	40 / 80	-
Ø P	10 / 25		20 / 50	40 / 100	45 / 150	63 / 200	73 / 300	-



Tipo (grandezza) / Type (size)	1	2	3	4	5	6
<b>Art. 810E*</b> Ganascia mobile con gradino 3x5 liscia Movable jaw with 3x5 step smooth	Cod. 5.81.0E100	5.81.0E200	5.81.0E300	5.81.0E400	5.81.0E500	5.81.0E600
* Viti per fissaggio a richiesta Fixing screws on request						
<b>Art. 810J*</b> Ganascia mobile prismatica per tondi liscia Prismatic movable jaw for round parts smooth	Cod. 5.81.0J100	5.81.0J200	5.81.0J300	5.81.0J400	5.81.0J500	5.81.0J600
* Viti per fissaggio a richiesta Fixing screws on request						
<b>Art. 810K*</b> Ganascia mobile prismatica per tondi zigrinata Prismatic movable jaw for round parts serrated	Cod. 5.81.0K100	5.81.0K200	5.81.0K300	5.81.0K400	5.81.0K500	5.81.0K600
* Viti per fissaggio a richiesta Fixing screws on request						
<b>Art. 810L*</b> Ganascia mobile con gradino Step movable jaw	Cod. 5.81.0L100	5.81.0L200	5.81.0L300	5.81.0L400	5.81.0L500	5.81.0L600
* Viti per fissaggio a richiesta Fixing screws on request						
<b>Art. 810M*</b> Ganascia mobile con gradino zigrinata da un lato Step movable jaw one side serrated	Cod. 5.81.0M100	5.81.0M200	5.81.0M300	5.81.0M400	5.81.0M500	5.81.0M600
* Viti per fissaggio a richiesta Fixing screws on request						
<b>Art. 810O*</b> Ganascia mobile con gradino piccolo e grande Movable jaw with small and large step	Cod. 5.81.0O100	5.81.0O200	5.81.0O300	5.81.0O400	5.81.0O500	5.81.0O600
* Viti per fissaggio a richiesta Fixing screws on request						
<b>Art. 810P*</b> Ganascia mobile con gradino piccolo e grande zigrin. da un lato Movable jaw with small and large step one side serrated	Cod. 5.81.0P100	5.81.0P200	5.81.0P300	5.81.0P400	5.81.0P500	5.81.0P600
* Viti per fissaggio a richiesta Fixing screws on request						
<b>Art. 810R*</b> Ganascia mobile in alluminio Movable jaw aluminium	Cod. 5.81.0R100	5.81.0R200	5.81.0R300	5.81.0R400	5.81.0R500	5.81.0R600
* Viti per fissaggio a richiesta Fixing screws on request						
<b>Art. 810T*</b> Ganascia mobile GRIP per forti serraggi GRIP movable jaw for strongest clamping	Cod. 5.81.0T100	5.81.0T200	5.81.0T300	5.81.0T400	5.81.0T500	5.81.0T600
* Viti per fissaggio a richiesta Fixing screws on request						
<b>Art. 810DT*</b> <b>NEW!</b> Ganascia mobile a coda di rondine Dove tail movable jaw	Cod. 5.81.0DT10	5.81.0DT20	5.81.0DT30	5.81.0DT40	5.81.0DT50	5.81.0DT60
* Viti a richiesta - Screws on request			Richiedere scheda tecnica - Technical data sheet on request			
<b>Art. 810V*</b> Ganascia mobile con segmenti oscillanti Movable jaw with floating inserts	Cod. 5.81.0V100	5.81.0V200	5.81.0V300	5.81.0V400	5.81.0V500	5.81.0V600
* Viti per fissaggio a richiesta Fixing screws on request						
<b>Art. 512*</b> Ganascia intermedia Intermediate Jaw	Cod. 5.51.21000	5.51.22000	5.51.23000	5.51.24000	5.51.25000	5.51.26000
* Viti per fissaggio a richiesta Fixing screws on request						



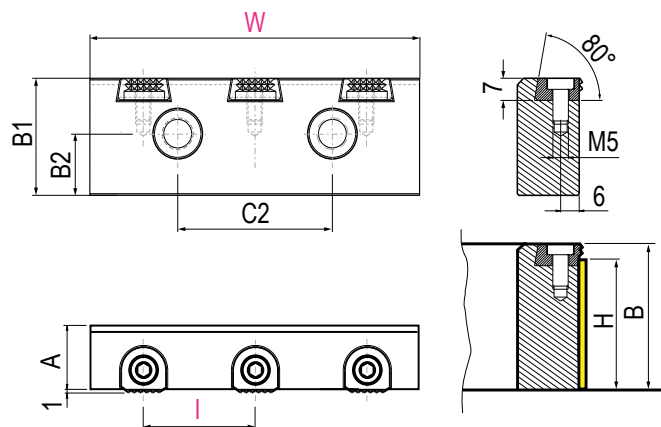
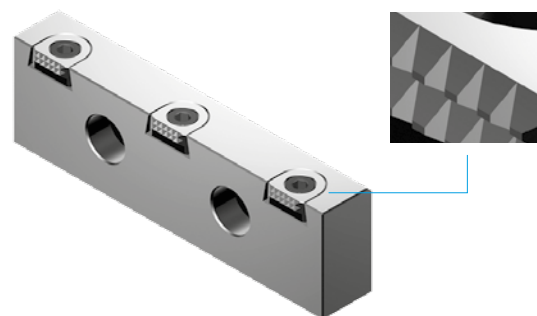
Type	1	2	3	4	5	6
W	74	94	124	144	169	189
J	25	35	40	40	50	50
J1	15	15	20	20	30	30
J2	9	9	14	14	19	19
B / B1	12,5	15	20	25	30	30
D	20	25	38	44	44	54
O	34	40	60	70	81	93

Vedi esempio applicativo - See application example: Pag. 5.15

# PIASTRE GANASCE PIANE CON INSERTI GRIP PER MORSE FMS

## STRAIGHT INSERT GRIP JAW PLATES FOR FMS VISES

**NEW!**
**Art.547G**

 Piastra Piana con inserti GRIP G01 per morse FMS  
 FMS vises Straight plate with G01 GRIP inserts

**Dotazione Standard - Standard Equipment**

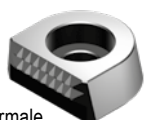
1 pc. Art.313 parallela magnetica - 1 pc. Art.313 magnetic parallel

Type	1	2	3	4	5	6
W	76	94	124	144	169	194
I	26	33	23,5	29,5	23,5	27
C2	25	32	65	65	75	90
B	25	30	40	50	60	60
B1	25	30	40	50	60	60
B2	12,25	16	15	21,5	24	24
A	20	20	20	20	20	20
H	20	25	35	45	55	55
Cod.	5.54.7G100	5.54.7G200	5.54.7G300	5.54.7G400	5.54.7G500	5.54.7G600

# INSERTI GRIP PER MORSE FMS

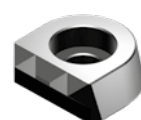
## INSERT GRIP JAW PLATES FOR FMS VISES

**NEW!**
**Art. 220 G01**

 Per materiali di durezza normale  
 For standard workpieces hardness clamping

**Art. 220 G02**

 Per materiali di notevole durezza.  
 For hardened workpieces clamping

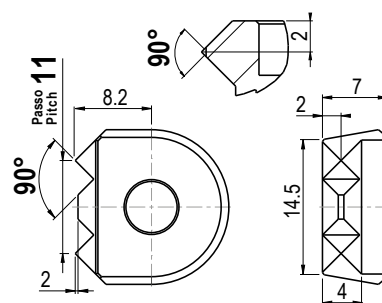
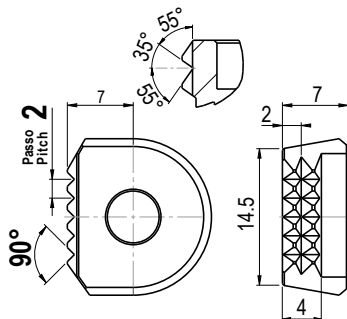
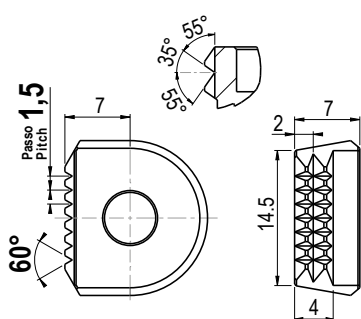
**Art. 220 G11**

 Per materiali teneri  
 For soft material clamping


Cod. 4.22.01000 / G01

Cod. 4.22.01000 / G02

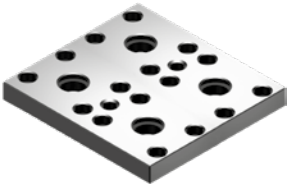
Cod. 4.22.01000 / G11



Tipo Type	1	2	3	4	5	6
Art.547G						
	3 pcs each	3 pcs each	5 pcs each	5 pcs each	7 pcs each	7 pcs each

# PIASTRE PER MORSE FMS

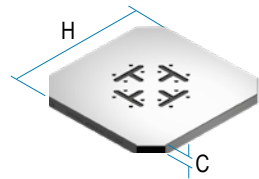
## PLATES FOR FMS VISES

Tipo (grandezza) / Type (size)	1	2	3	4	5	6
<b>Art. 823</b> Piastra intermedia per Art. 855 Middle plate for Art. 855						
Cod. 5.82.31000 5.82.32000 5.82.33000 5.82.34000 5.82.35000 5.82.36000						
<b>Art. 823B</b> Piastra intermedia per Art. 800 Middle plate for Art. 800						
Cod. 5.82.3B100 5.82.3B200 5.82.3B300 5.82.3B400 5.82.3B500 5.82.3B600						
<b>Art. 825</b> Piastra di contenimento vite per morse FMS per Art. 855 Screw holding plate for FMS vise for Art. 855						
Cod. 5.82.51000 5.82.52000 5.82.53000 5.82.54000 5.82.55000 5.82.56000						
<b>Art. 825B</b> Piastra di contenimento vite per morse FMS per Art. 800 Screw holding plate for FMS vise for Art. 800						
Cod. 5.82.5B100 5.82.5B200 5.82.5B300 5.82.5B400 5.82.5B500 5.82.5B600						
<b>Art. 825C</b> Piastra di contenimento vite per morse FMS per Art. 855W Screw holding plate for FMS vise for Art. 855W						
Cod. 5.82.5C100 5.82.5C200 5.82.5C300 5.82.5C400 5.82.5C500 5.82.5C600						
<b>Art. 831</b> Piastra di collegamento per 2 morse FMS montate verticalmente dorso a dorso o fianco a fianco Connecting plate for 2 FMS vises vertically mounted back-to-back or side by side						
Cod. 5.83.11000 5.83.12000 5.83.13000 5.83.14000 5.83.15000 5.83.16000						
<b>Art. 832</b> Piastra di collegamento per 4 morse FMS montate verticalmente dorso a dorso o fianco a fianco Connecting plate for 4 FMS vises vertically mounted back-to-back or side by side						
Cod. 5.83.21000 5.83.22000 5.83.23000 5.83.24000 5.83.25000 5.83.26000						
<b>Art. 833</b> Piastra di collegamento personalizzata per 2 morse FMS Connecting plate for 2 FMS vises tailor made						
Cod. 5.83.31000 5.83.32000 5.83.33000 5.83.34000 5.83.35000 5.83.36000						
<b>Art. 834</b> Piastra di collegamento personalizzata per 4 morse FMS Connecting plate for 4 FMS vises tailor made						
Cod. 5.83.41000 5.83.42000 5.83.43000 5.83.44000 5.83.45000 5.83.46000						

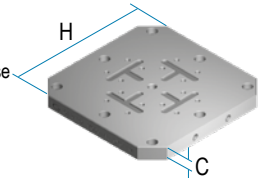
# PIASTRE BASE PER MORSE FMS

## BASE PLATES FOR FMS VISES

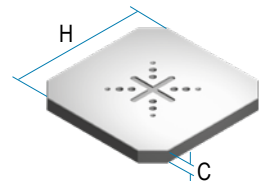
Tipo (grandezza) / Type (size)	1	2	3	4	5	6	7
<b>Art. 827</b> Piastra base per una o più morse Head plate for one or more vises	C	33	33	38	38	38	38
	H	300	350	400	450	500	630
	Kg	22	30	44	56	71	113
	Cod.	5.82.71000	5.82.72000	5.82.73000	5.82.74000	5.82.75000	5.82.76000



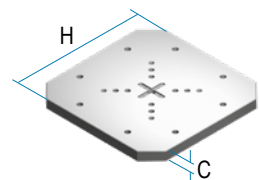
<b>Art. 827A</b> Piastra base personalizzata per una o più morse Bussola di centraggio Art. 852 compresa Tailor made head plate for one or more vises Centering bushing Art. 852 included	Kg	21,5	29,5	43,5	55	70	112
	Cod.	5.82.7A100	5.82.7A200	5.82.7A300	5.82.7A400	5.82.7A500	5.82.7A600



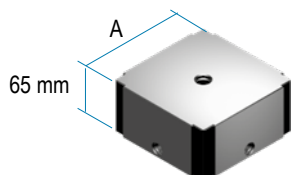
<b>Art. 828</b> Piastra base per cubo morsa Head plate for vise tower	Kg	22,5	30,5	45	57	72	114
	Cod.	5.82.81000	5.82.82000	5.82.83000	5.82.84000	5.82.85000	5.82.86000



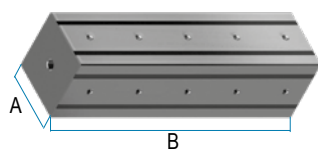
<b>Art. 828A</b> Piastra base personalizzata per cubo morsa Bussola di centraggio Art. 852 compresa Tailor made head plate for vise tower Centering bushing Art. 852 included	Kg	22	30	44,5	56,5	71	113
	Cod.	5.82.8A100	5.82.8A200	5.82.8A300	5.82.8A400	5.82.8A500	5.82.8A600



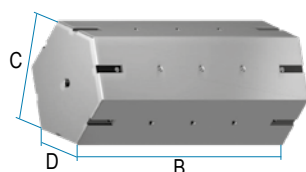
Tipo (grandezza) / Type (size)	1	2	3	4	5	6
<b>Art. 835</b> Distanziale quadrato per 4 morse FMS Square spacer for 4 FMS vises	A	75	95	125	145	170
	Cod.	5.83.51000	5.83.52000	5.83.53000	5.83.54000	5.83.55000



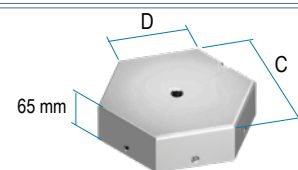
<b>Art. 836</b> Supporto quadrato per 4 morse FMS Square support for 4 FMS vises	A	75	95	125	145	170
	B	200	300	400	500	600
	Cod.	5.83.61000	5.83.62000	5.83.63000	5.83.64000	5.83.65000



<b>Art. 837</b> Supporto esagonale per 6 morse FMS Exagon support for 6 FMS vises	B	200	300	400	500	600
	C	132	170	220	255	300
	D	76 ~	98 ~	127 ~	147 ~	173 ~
	Cod.	5.83.71000	5.83.72000	5.83.73000	5.83.74000	5.83.75000



<b>Art. 838</b> Distanziale esagonale per 6 morse FMS Exagon spacer for 6 FMS vises	C	132	170	220	255	300
	D	76 ~	98 ~	127 ~	147 ~	173 ~
	Cod.	5.83.81000	5.83.82000	5.83.83000	5.83.84000	5.83.85000



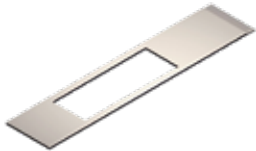
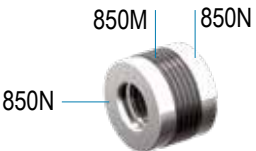
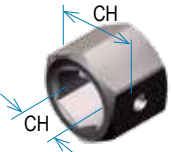





<b>Art. 852</b> Bussola di centraggio per piastra base Centering bushing for base plate	Cod.	5.85.21000	5.85.22000	5.85.23000	5.85.24000	5.85.25000








<b>Art. 853</b> Centraggio orizzontale per cubo FMS Horizontal centering for FMS cube	Cod.	5.85.31000	5.85.32000	5.85.33000	5.85.34000	5.85.35000



Tipo (grandezza) / Type (size)	1	2	3	4	5	6
<b>Art. 825A</b> Ghiera per morse e cubi FMS Nut for FMS vises and cubes 	Cod. 5.82.5A100	5.82.5A200	5.82.5A300	5.82.5A400	5.82.5A500	5.82.5A600
<b>Art. 850B</b> Riparo lato vite Protection side screw 	Cod. 5.85.0B100	5.85.0B200	5.85.0B300	5.85.0B400	5.85.0B500	5.85.0B600
<b>Art. 850C</b> Riparo Protection 	Cod. 5.85.0C100	5.85.0C200	5.85.0C300	5.85.0C400	5.85.0C500	5.85.0C600
<b>Art. 850P</b> Dispositivo "Terza Mano" "Third Hand" device 	Cod. 5.85.0P100	5.85.0P200	5.85.0P300	5.85.0P400	5.85.0P500	5.85.0P600
<b>Art. 850E</b> Bussola esagonale per innesto automatico Hexagonal bushing for automatic connection 	CH 12 / 22	14 / 24	19 / 30	19 / 30	27 / 40	27 / 40
<b>Art. 850T</b> Distanziale per morsa solo autocentrante Spacer for Self-centering vise only 	Cod. 5.85.0T100	5.85.0T200	5.85.0T300	5.85.0T400	5.85.0T500	5.85.0T600
<b>Art. 850H</b> Chiave esagonale per morsa FMS e cubo Hexagonal wrench for FMS vise and cube 	Cod. 5.85.0H100	5.85.0H200	5.85.0H300	5.85.0H500		
<b>Art. 801S</b> Piastrina di collegamento slitte morsa Slides vise connecting plate 	Cod. 5.80.1S100	5.80.1S200	5.80.1S300	5.80.1S400	5.80.1S500	5.80.1S600

## RICAMBI PER MORSE Art.800

## SPARE PARTS FOR VISES Art.800

<b>Art. 800E</b> Guarnizione per slitta integrale O ring for solid slide 	Cod. 5.80.0E100	5.80.0E200	5.80.0E300	5.80.0E400	5.80.0E500	5.80.0E600
<b>Art. 801G</b> Grano di bloccaggio protezione centrale Setscrew for clamping central protection 	Cod. 5.80.1G100	5.80.1G200	5.80.1G300	5.80.1G400	5.80.1G500	5.80.1G600
<b>Art. 800I</b> Vite tcei per piastra di contenimento Hex.socket head screw for screw holding plate 	Cod. 5.80.0I100	5.80.0I200	5.80.0I300	5.80.0I400	5.80.0I500	5.80.0I600
<b>Art. 801H</b> Vite tcei per ganasce a gradino Hex.socket head screw for step jaws 	Cod. 5.80.1H100	5.80.1H200	5.80.1H300	5.80.1H400	5.80.1H500	5.80.1H600
<b>Art. 801I</b> Vite tcei per ganasce Hex.socket head screw for jaws 	Cod. 5.80.1I100	5.80.1I200	5.80.1I300	5.80.1I400	5.80.1I500	5.80.1I600

# SERVOCOMANDI OLEODINAMICI PER MOTORI IDRAULICI

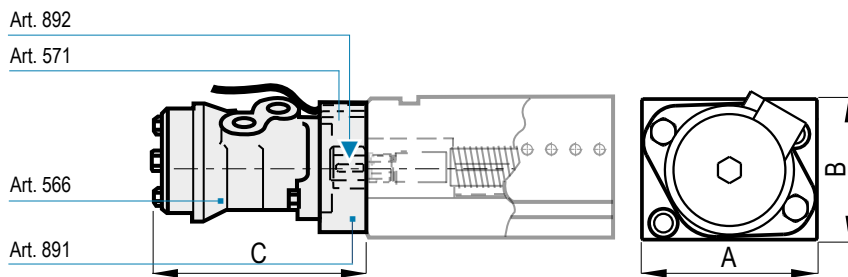
## ELECTRO-HYDRAULIC POWER PACK FOR HYDRAULIC MOTORS

Tipo (grandezza) / Type (size)	1	2	3	4	5	6
<b>Art. 566</b> Motore idraulico / Hydraulic motor	OMM32	OMP80	OMR200	OMR200	OMR200	OMR200
bar	140					
A mm	75	130	123	145	168	188
B mm	70	100	104	119	139	159
C mm	157	234	244	246	261	261
Cod.	5.89.01000	5.89.02000	5.89.03000	5.89.04000	5.89.05000	5.89.06000

### Art.890

**Art. 566 + Art. 571 + Art. 891 + Art. 892**

Motore idraulico completo di piastra d' interfaccia, boccola e fine corsa elettronico regolabile  
 Hydraulic motor complete with connecting plate, bushing and adjustable electronic proximity switch



### Art. 891

Piastra attacco motore idraulico / Hydraulic motor mounting plate

Cod.	5.89.11000	5.89.12000	5.89.13000	5.89.14000	5.89.15000	5.89.16000
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### Art. 892

Boccola di trascinamento vite motore / Drive bushing screw-motor

Cod.	5.89.21000	5.89.22000	5.89.23000	5.89.24000	5.89.25000	5.89.26000
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### Art. 566

Motore Idraulico / Hydraulic motor

Cod.	5.56.61000	5.56.62000	5.56.63000	5.56.63000	5.56.63000	5.56.63000
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### Art. 571

Fine corsa elettronico / Electronic proximity switch

Cod.	5.57.11000	5.57.12000	5.57.13000	5.57.14000	5.57.15000	5.57.16000
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Tipo (grandezza) / Type (size)	1	2	3	4	5	6
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### Art.890K/1

**Art. 266B + Art. 890**

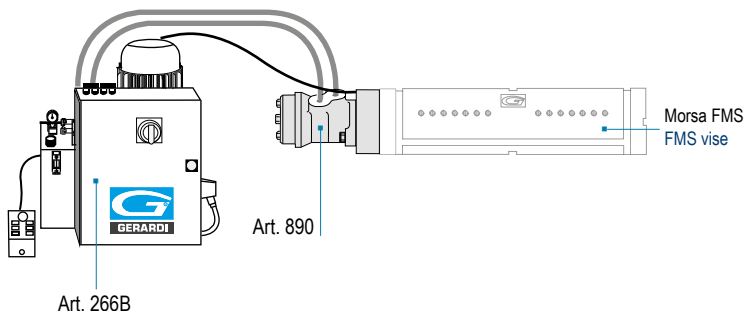
Kit per automazione morse FMS  
 Kit for FMS vises automation.

bar	130	100	100	100	120	120
l/min	5	10	20	20	20	20

Cod.	5.89.0K101	5.89.0K201	5.89.0K301	5.89.0K401	5.89.0K501	5.89.0K601
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**COMPOSIZIONE COMPLETA DI:**

- N° 1 servocomando Art. 890
- N° 1 centralina elettroidraulica Art. 266B/1
- Comando manuale elettrico da pulsantiera con chiusura ed apertura indipendente, singola o simultanea vedi pag. 5.79
- Regolazione forza di bloccaggio desiderata
- Fine corsa elettronico regolabile



**COMPOSITION COMPLETE OF:**

- N° 1 hydraulic servo unit Art. 890
- N° 1 electro-hydraulic power pack Art. 266B/1
- Electrically controlled by manual switch board see pag. 5.79
- Adjustable clamping force as required
- Adjustable electronic proximity switch

**DATI TECNICI:**

Velocità apertura-chiusura morse da calcolarsi in base al diagramma idromotore (Vedi pag 5.65)

Per il diagramma forza di serraggio vedi pag. 5.72  
 Pressione massima di esercizio: 140 bar

**TECHNICAL DATA:**

Opening and closing speed of vise to be calculated from hydraulic motor diagram at page 5.65

For clamping forces diagram see pag. 5.72  
 Max operating pressure: 140 bar

Tubi e cavi di collegamento elettrici ed idraulici con massima lunghezza 1600 mm / Hydraulic pipes and electrical cables with max length 1600 mm

# SERVOCOMANDI OLEODINAMICI PER MOTORI IDRAULICI

## ELECTRO-HYDRAULIC POWER PACK FOR HYDRAULIC MOTORS

Tipo (grandezza) / Type (size)	1	2	3	4	5	6
<b>Art.890K/2</b>						
bar	130	100	100	100	120	120
l/min	10	20	40	40	40	40
Cod.	5.89.0K102	5.89.0K202	5.89.0K302	5.89.0K402	5.89.0K502	5.89.0K602

**Art. 266B + 2 Art. 890**

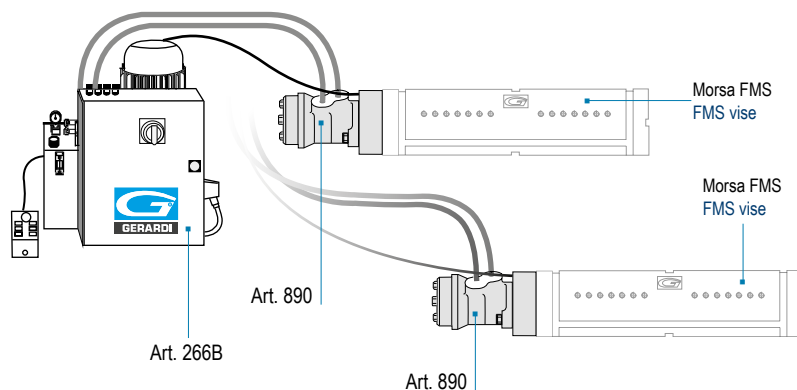
 Kit per automazione morse FMS  
 Kit for FMS vises automation.

**COMPOSIZIONE COMPLETA DI:**

- N° 2 servocomandi Art. 890
- N° 1 centralina elettroidraulica Art. 266B/2
- Comando manuale elettrico da pulsantiera con chiusura ed apertura indipendente, singola o simultanea
- Regolazione forza di bloccaggio desiderata
- Fine corsa elettronico regolabile

**COMPOSITION COMPLETE OF:**

- N° 2 hydraulic servo unit Art. 890
- N° 1 electro-hydraulic power pack Art. 266B/2
- Electrically controlled by manual switch board
- Adjustable clamping force as required
- Adjustable electronic proximity switch


**DATI TECNICI:**

 Velocità apertura-chiusura morsa da calcolarsi in base al diagramma idromotore (Vedi pag 5.65)  
**Per il diagramma forza di serraggio vedi pag. 5.72**  
**Pressione massima di esercizio: 140 bar**
**TECHNICAL DATA:**

 Opening and closing speed of vise to be calculated from hydraulic motor diagram at page 5.65  
**For clamping forces diagram see pag. 5.72**  
**Max operating pressure: 140 bar**

Tubi e cavi di collegamento elettrici ed idraulici con massima lunghezza 1600 mm / Hydraulic pipes and electrical cables with max lenght 1600 mm

Tipo (grandezza) / Type (size)	1	2	3	4	5	6
<b>Art.890K/3</b>						
bar	130	100	100	100	120	120
l/min	15	30	60	60	60	60
Cod.	5.89.0K103	5.89.0K203	5.89.0K303	5.89.0K403	5.89.0K503	5.89.0K603

**Art. 266B + 3 Art. 890**

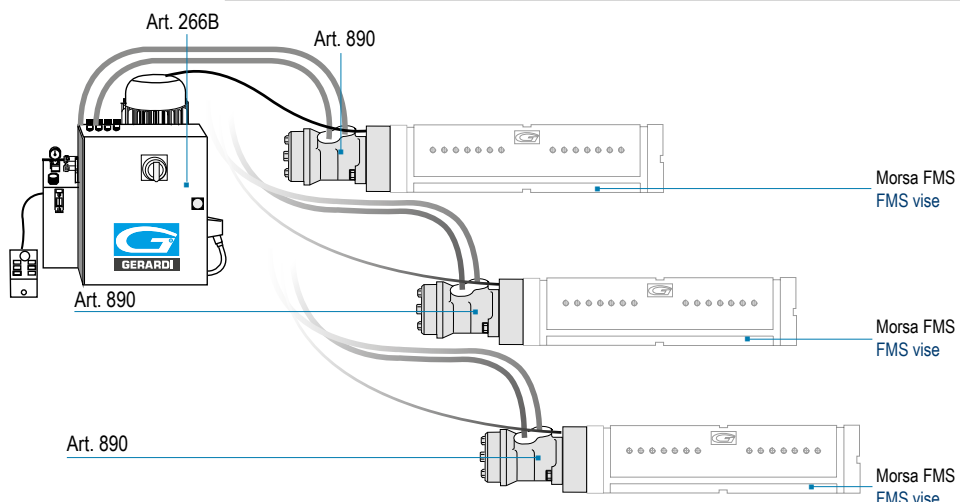
 Kit per automazione morse FMS  
 Kit for FMS vises automation.

**COMPOSIZIONE COMPLETA DI:**

- N° 3 servocomandi Art. 890
- N° 1 centralina elettroidraulica Art. 266B/4
- Comando manuale elettrico da pulsantiera con chiusura ed apertura indipendente, singola o simultanea
- Regolazione forza di bloccaggio desiderata
- Fine corsa elettronico regolabile

**COMPOSITION COMPLETE OF:**

- N° 3 hydraulic servo unit Art. 890
- N° 1 electro-hydraulic power pack Art. 266B/4
- Electrically controlled by manual switch board
- Adjustable clamping force as required
- Adjustable electronic proximity switch


**DATI TECNICI:**

 Velocità apertura-chiusura morsa da calcolarsi in base al diagramma idromotore (Vedi pag 5.65)  
**Per il diagramma forza di serraggio vedi pag. 5.72**  
**Pressione massima di esercizio: 140 bar**
**TECHNICAL DATA:**

 Opening and closing speed of vise to be calculated from hydraulic motor diagram at page 5.65  
**For clamping forces diagram see pag. 5.72**  
**Max operating pressure: 140 bar**

Tubi e cavi di collegamento elettrici ed idraulici con massima lunghezza 1600 mm / Hydraulic pipes and electrical cables with max lenght 1600 mm

# SERVOCOMANDI OLEODINAMICI PER MOTORI IDRAULICI

## ELECTRO-HYDRAULIC POWER PACK FOR HYDRAULIC MOTORS

Tipo (grandezza) / Type (size)	1	2	3	4	5	6
<b>Art.890K/4</b>						
bar	130	100	100	100	120	120
l/min	20	40	80	80	80	80
Cod.	5.89.0K104	5.89.0K204	5.89.0K304	5.89.0K404	5.89.0K504	5.89.0K604

### Art. 266B + 4 Art. 890

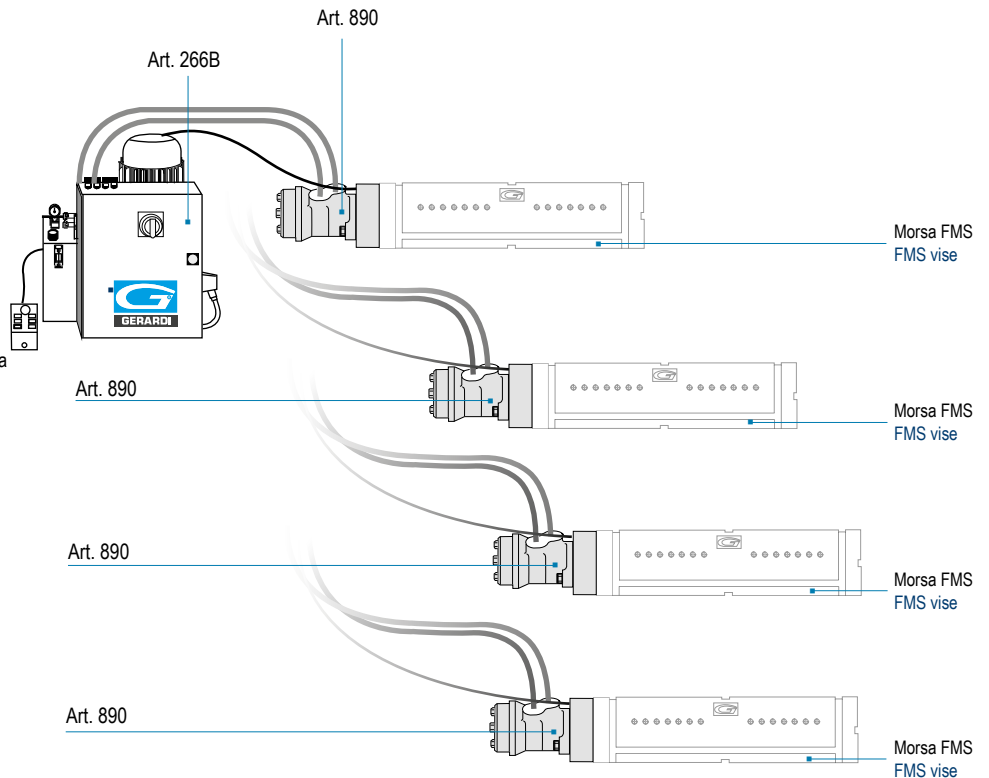
Kit per automazione morse FMS  
 Kit for FMS vises automation.

#### COMPOSIZIONE COMPLETA DI:

- N° 4 servocomandi Art. 890
- N° 1 centralina elettroidraulica Art. 266B/4
- Comando manuale elettrico da pulsantiera con chiusura ed apertura indipendente, singola o simultanea
- Regolazione forza di bloccaggio desiderata
- Fine corsa elettronico regolabile

#### COMPOSITION COMPLETE OF:

- N° 4 hydraulic servo unit Art. 890
- N° 1 electro-hydraulic power pack Art. 266B/4
- Electrically controlled by manual switch board
- Adjustable clamping force as required
- Adjustable electronic proximity switch



#### DATI TECNICI:

Velocità apertura-chiusura morse da calcolarsi  
 in base al diagramma idromotore (Vedi pag 5.65)  
 Per il diagramma forza di serraggio vedi pag. 5.72  
 Pressione massima di esercizio: 140 bar

#### TECHNICAL DATA:

Opening and closing speed of vise to be calculated  
 from hydraulic motor diagram at page 5.65  
 For clamping forces diagram see pag. 5.72  
 Max operating pressure: 140 bar



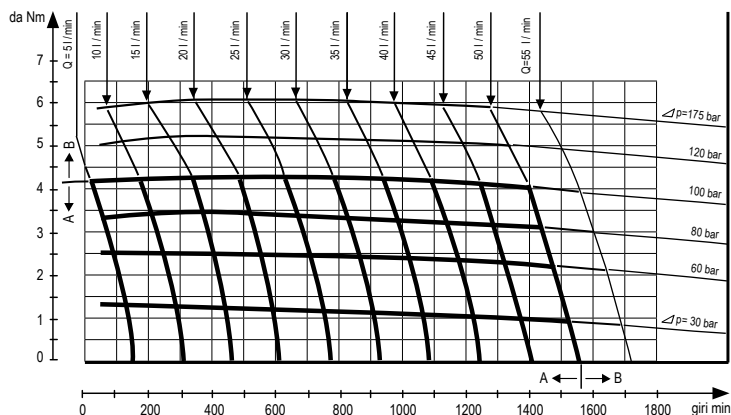
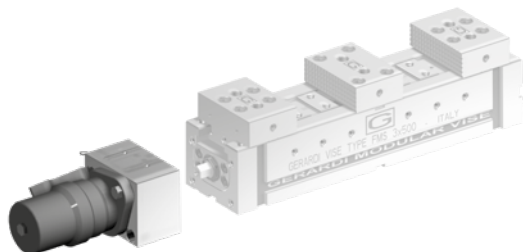
Tubi e cavi di collegamento elettrici ed idraulici con massima lunghezza 1600 mm / Hydraulic pipes and electrical cables with max length 1600 mm



# GRAFICI MORSE FMS CON MOTORE IDRAULICO

## DIAGRAMS OF FMS VISES WITH HYDRAULIC MOTORS

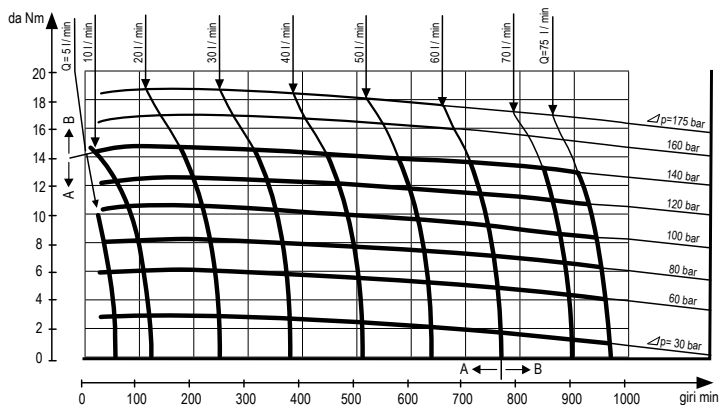
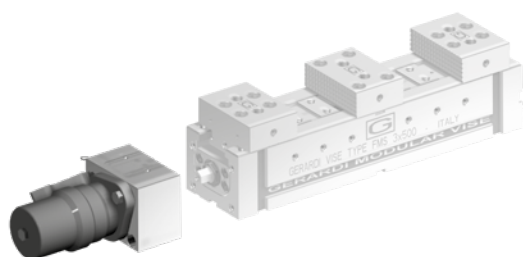
**Art.890** (Art.890) Motore idraulico  
(Art.890) Hydraulic motor



### OMR 32

Morse FMS tipo 1 / Type 1 FMS vises

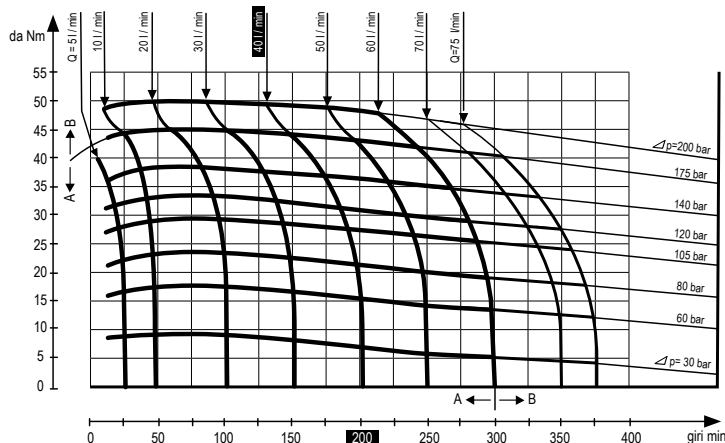
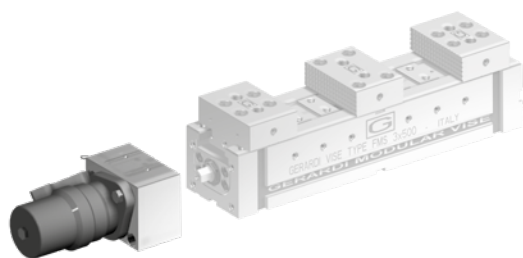
**Art.890** (Art.890) Motore idraulico  
(Art.890) Hydraulic motor



### OMR 80

Morse FMS tipo 2 / Type 2 FMS vises

**Art.890** (Art.890) Motore idraulico  
(Art.890) Hydraulic motor



### OMR 200

Morse FMS tipo 3 - 4 - 5 - 6 Type 3 - 4 - 5 - 6 FMS vises

VELOCITA' = Passo vite x giri/min (dati dalla portata di olio in l/min) - 25% circa per attriti e resistenze varie.

Esempio: Vite passo 2 mm; Giri 200/min (ipotizzando una portata olio di 40 l/min);  $V = 2 \times 200 = 400 - 25\% = 300$  mm/min per una morsa.

Per più morse dividere la velocità ottenuta per il numero delle morse impiegate.

SPEED = Screw pitch x RPM (that you get from oil pump of 40 l/min) about - 25% for friction and other resistance.

Example: Screw pitch 2mm; RPM 200/min (taking in consideration oil pump of 40 l/min);  $V = 2 \times 200 = 400 - 25\% = 300$  mm/min for one vise.

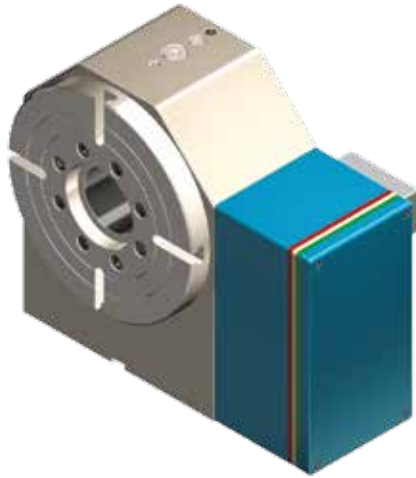
For more vises divide the speed obtained by the number of vises used.

# DIVISORE AUTOMATICO DPG 250

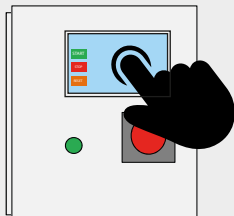
## AUTOMATIC DIVIDING HEAD DPG 250

**NEW!**
**Divisore automatico**  
 Automatic dividing head

**Dati tecnici**  
 Technical Data

**DPG 250**


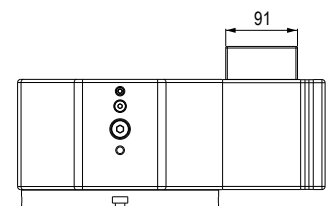
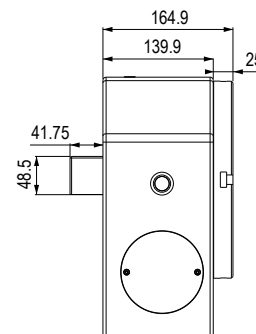
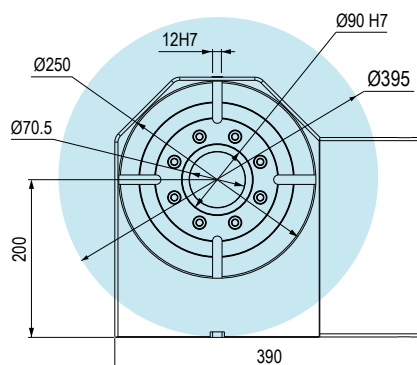
Diametro del divisore Dividing head diameter		250 mm
Diametro del foro passante Clearance hole diameter		70,5 mm
Altezza punta Center height		200 mm
Dimensione della scanalatura a T T-Slot width		12 mm
Sistema di bloccaggio Clamping system		Idraulico Hydraulic
Forza frenante Clamping torque		3000 Nm
Motore Servo motor		3000 Max.g/min
Minimo incremento Minimum increment		0,002
Velocità di rotazione Rotation speed		33,3 Giri/min
Rapporti vite/corona Speed reduction ratio (screw/gear)		1/90
Rapporti vite/motore Speed reduction ratio (screw/motor)		1/180
Precisione Indexing accuracy		±10 Sec.
Ripetibilità Repeatability		4 Sec.
Max. carico di lavoro sul divisore Max. allowable work weight on the dividing head	Verticale Vertical	Kg.550
	Orizzontale Horizontal	Kg.1500
Max. carico di spinta applicabile sul divisore Max. allowable tool load on the dividing head		N 25000
		FxL Nm 1000
		FxL Nm 2200
Rapporti vite/corona Speed reduction ratio (screw/gear)	Verticale Vertical	10,5 Kg. m <sup>2</sup>
Coppia in lavoro Driving torque	Corona dentata Worm gear	698 Nm
Kg		110
Cod.		8.DP.G2500


**PROGRAMMAZIONE TOUCH SCREEN**  
 FACILE ED INTUITIVA O TRAMITE COLLEGAMENTO DIRETTO AL CNC

**EASY AND INTUITIVE TOUCH SCREEN**  
 PROGRAMMING OR THROUGH DIRECT CONNECTION TO THE CNC

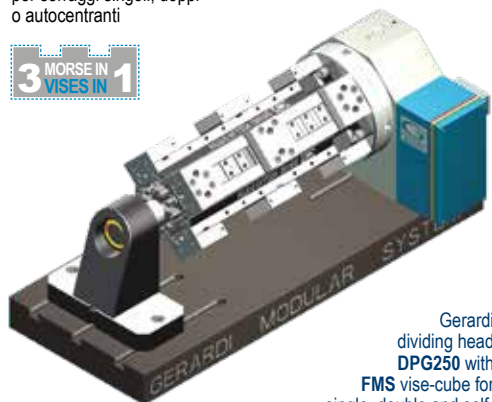
- Installazione semplice (alimentazione 220V)
- Corona in bronzo speciale
- Controsupporto semplice
- Vite senza fine in acciaio temprato e rettificato
- Vite e corona in bagno d'olio
- Cuscinetti a vite precaricati
- Cuscinetto anteriore a rulli incrociati sovradimensionato
- Recupero gioco con avvicinamento assiale
- Completa tenuta stagna ai liquidi con possibilità di pressurizzazione
- Possibilità di montare motori di tutte le marche
- Dimensioni esterne contenute
- Finestra di controlli liquidi e condensa
- Lavorazione in posizionamento a 360°

- Easy installation (220V)
- Special bronze crown
- Simple tailstock
- Worm screw in hardened ground steel
- Bath lubrication Screw and Crown
- Pre-loaded screw bearings
- Over-dimensioned crossed-roller front bearing
- Play recover with axial approach
- Watertight seal with possibility of pressurization
- Possibility to mount motors of all brands
- Reduced external dimensions
- Condensation and liquid control window
- 360° work positioning

**DPG 250**


**Tipo (grandezza) morsa / Vise type (size)**

 Divisore Gerardi DPG250  
 con cubo-morsa FMS  
 per serraggi singoli, doppi  
 o autocentranti

**3 MORSE IN  
 VISES IN 1**

 Gerardi  
 dividing head  
**DPG250** with  
**FMS** vise-cube for  
 single, double and self-  
 centering clamping

kN	1		2				3				
	25 kN		25 kN				30 kN				
D	200	300	300	400	500	600	400	500	600	700	800
G1	120		175				210				
W	74		94				124				
Cod.	5.DP.G25000	5.DP.G25010	5.DP.G25020	5.DP.G25030	5.DP.G25040	5.DP.G25050	5.DP.G25060	5.DP.G25070	5.DP.G25080	5.DP.G25090	5.DP.G25011

**UPGRADE YOUR VISE APPLICATIONS THROUGH MODULAR ACCESSORIES !**
**Art. 99A**

 Supporto  
 Support

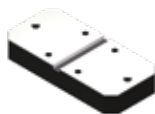

Cod. 5.99.A2000

**Art. 99B**

 Perno di centraggio orizzontale  
 Horizontal centering pin


Cod. 5.99.B1000 5.99.B2000 5.99.B3000

**Art. 99H**

 Distanziale  
 Spacer


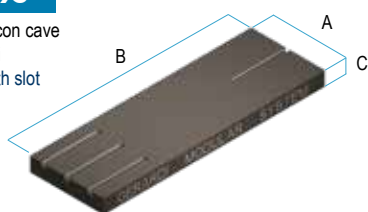
Cod. 5.99.H2000

**Art. 62**
**DPG 250**

 Piastra di interfaccia DPG 250 per FMS  
 DPG 250 connecting plate for FMS


Cod. 5.62.801A05 5.62.801A06 5.62.801A07

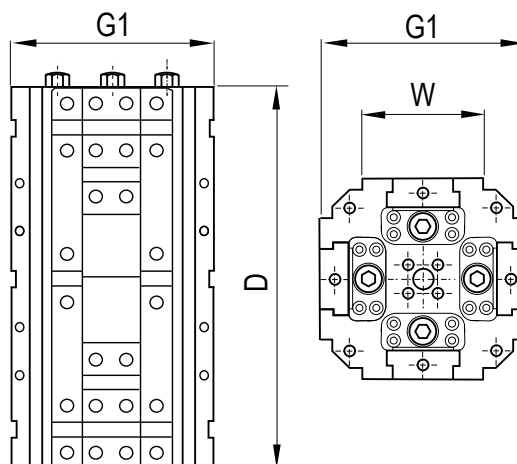
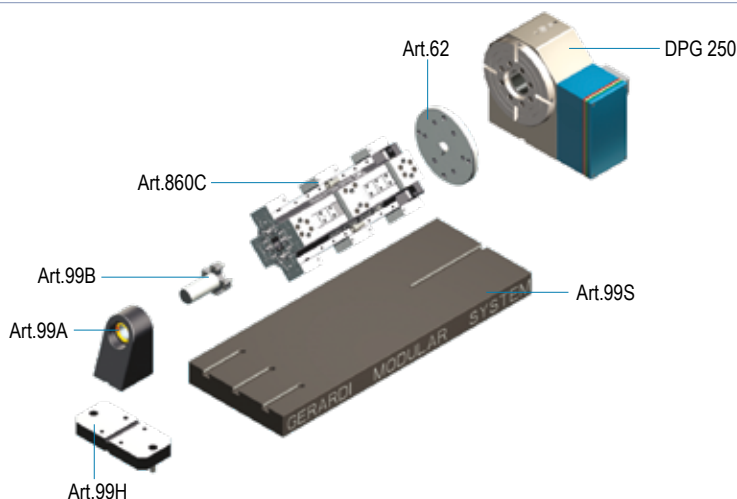
**Art. 99S**

 Piastra base con cave  
 Piani rettificati  
 Base plate with slot  
 Faces ground


Dimensioni B mm Dimension B mm	A	C	Kg	Cod.
650	400	50	102	7.99.S065S
950	400	50	149	7.99.S095S
1250	400	50	195	7.99.S125S

 Cave o fori calibrati su richiesta  
 Slot or calibrated holes on request

Disponibili quote "B" a step di 50mm - Available dimension "B" in steps of 50mm




# DIVISORE MECCANICO DIVIGER 205

## MECHANICAL DIVIDING HEAD DIVIGER 205

**NEW!**
**Divisore automatico**  
 Automatic dividing head

**Dati tecnici**  
 Technical Data

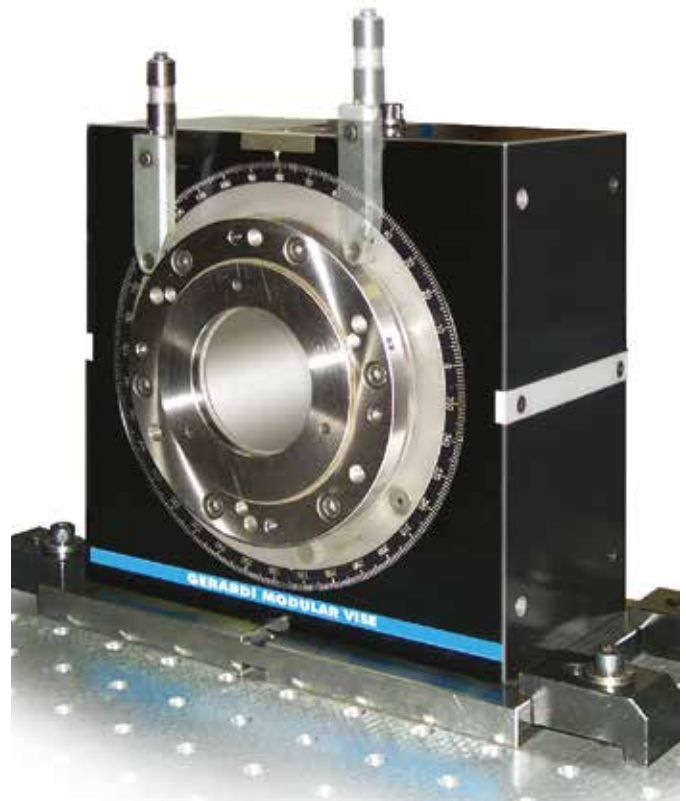
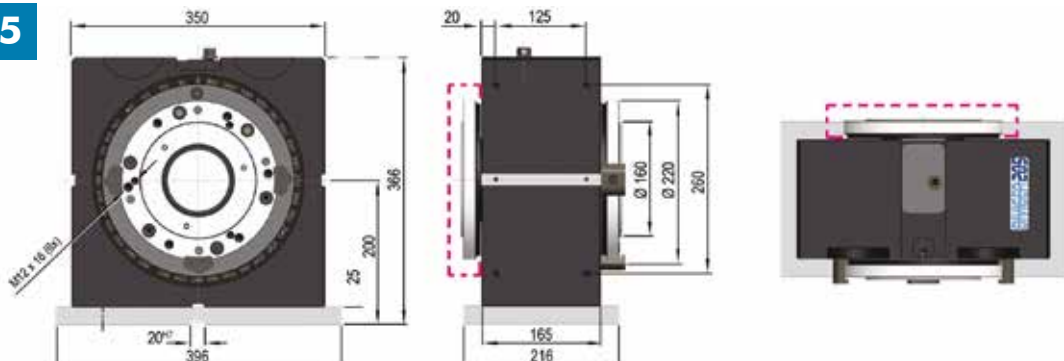
**DIVIGER 205**


Diametro del divisore Dividing head diameter	220 mm
Diametro del foro passante Clearance hole diameter	85 mm
Altezza centrale Center height	200 mm
Dimensione della scanalatura a T T-Slot width	-
Sistema di bloccaggio Clamping system	Meccanico Mechanical
Minimo incremento Minimum increment	1°
Precisione Indexing accuracy	±10 Sec.
Coppia in lavoro Driving torque	 3000 Nm
Kg	93
Cod.	7.66.73000

 DIVISORE MECCANICO, SENZA CAVI O IDRAULICA,  
 PERMACCHINE A CNC

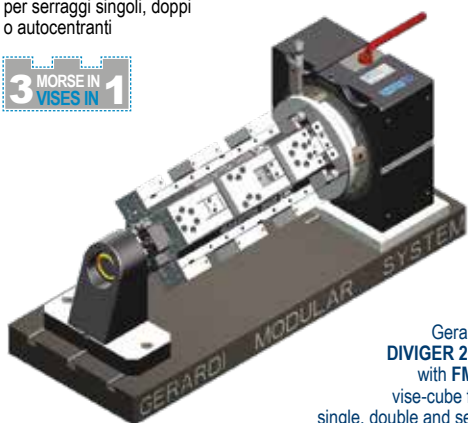
 MECHANICAL DIVIDING HEAD, WITHOUT ELECTRICAL CABLES  
 OR HYDRAULIC, FOR CNC MILLING MACHINE

- Maggiore efficienza nella lavorazione su più lati
- Completamente autonomo dalla macchina
- Elevato momento torcente
- Divisione manuale o automatica tramite mandrino macchina
- 360 posizioni
- Serraggio simultaneo di due particolari grazie alla doppia flangia
- lavorazione su 5 facce senza contropunta
- Lavorazione a barra grazie al mandrino cavo
- Utilizzabile orizzontalmente o verticalmente
- Cambio tramite serraggio a cuneo
- Cost-effective on multiple-sides machining
- Machine independent
- High holding torque
- Dividing manually or automatically using the machine spindle
- 360 x 1° division
- Simultaneous clamping of 2 workpieces thanks to the dual flange
- 5 faces machining without counter-holder
- Bar machining due to hollow spindle
- To be used horizontally or vertically
- Quick change through wedge clamping


**DIVIGER 205**


## Tipo (grandezza) morsa / Vise (type) size

 Divisore Gerardi **DIVIGER 205**  
 con cubo-morsa **FMS**  
 per serraggi singoli, doppi  
 o autocentranti

**3 MORSE IN 1**  
**VISES IN 1**

 Gerardi  
**DIVIGER 205**  
 with **FMS**  
 vise-cube for  
 single, double and self-  
 centering clamping

kN	1		2				3				
	25 kN		25 kN				30 kN				
D	200	300	300	400	500	600	400	500	600	700	800
G1	120		175				210				
W	74		94				124				
Cod.	5.DI.V20500	5.DI.V20510	5.DI.V20520	5.DI.V20530	5.DI.V20540	5.DI.V20550	5.DI.V20560	5.DI.V20570	5.DI.V20580	5.DI.V20590	5.DI.V20511

**UPGRADE YOUR VISE APPLICATIONS THROUGH MODULAR ACCESSORIES !**
**Art. 99A**

 Supporto  
 Support


Cod. 5.99.A2000

**Art. 99B**

 Perno di centraggio orizzontale  
 Horizontal centering pin


Cod. 5.99.B1000 5.99.B2000 5.99.B3000

**Art. 99H**

 Distanziale  
 Spacer

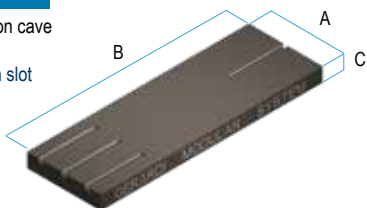

Cod. 5.99.H2000

**Art. 62**
**DIVIGER 205**

 Piastra di interfaccia DIVIGER 205 per FMS  
 DIVIGER 205 connecting plate for FMS


Cod. 5.62.801A05 5.62.801A06 5.62.801A07

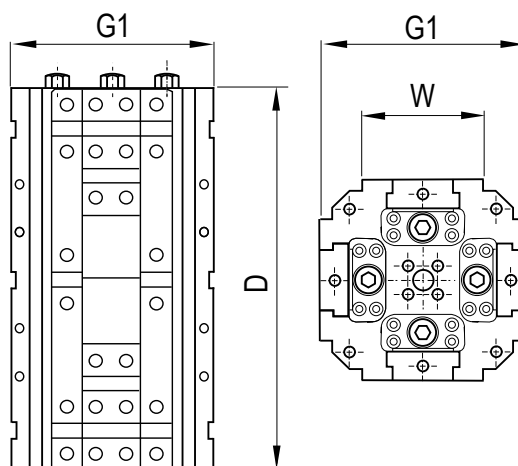
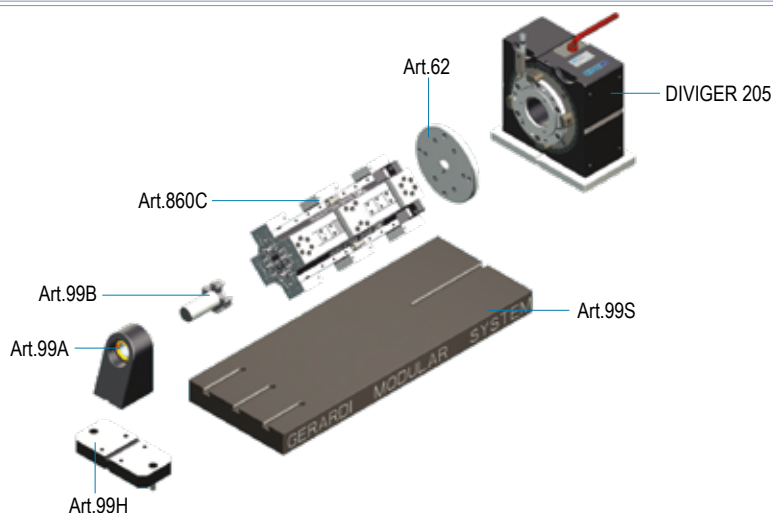
**Art. 99S**

 Piastra base con cave  
 Piani rettificati  
 Base plate with slot  
 Faces ground


Dimensioni B mm Dimension B mm	A	C	Kg	Cod.
650	400	50	102	7.99.S065S
950	400	50	149	7.99.S095S
1250	400	50	195	7.99.S125S

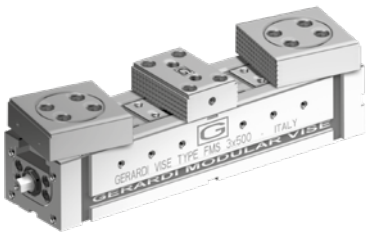
 Cave o fori calibrati su richiesta  
 Slot or calibrated holes on request

Disponibili quote "B" a step di 50mm - Available dimension "B" in steps of 50mm



# DIAGRAMMI CON FORZE DI SERRAGGIO

## DIAGRAMS WITH CLAMPING FORCE



### SERRAGGIO MECCANICO CON CHIAVE DINAMOMETRICA

N.B. Alcuni fattori, come la lubrificazione, lo staffaggio, gli attriti ed altro, possono modificare i valori indicato fino al  $\pm 10\%$ . Per un corretto utilizzo non superare i valori indicati nel grafico

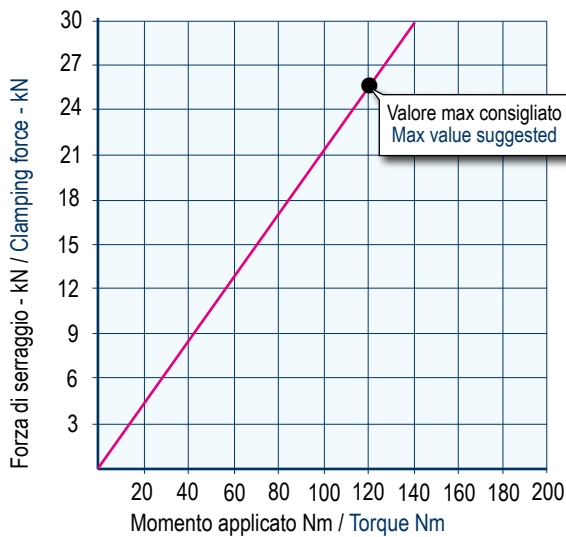
### MECHANICAL CLAMPING WITH TORQUE WRENCH

Some factor as lubrication, type of clamping on the machine table, frictions and more can modify above values within a  $\pm 10\%$  range. For optimum operation do not exceed chart values

## MORSE FMS TIPO 1

### FMS VISES TYPE 1

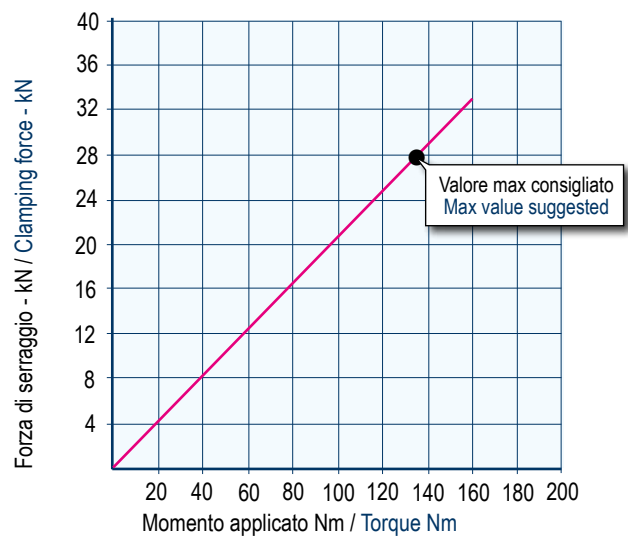
VITE: TPF 18 / 20 mm PASSO: 2 mm  
 SCREW: TPF 18 / 20 mm PITCH: 2 mm



## MORSE FMS TIPO 2

### FMS VISES TYPE 2

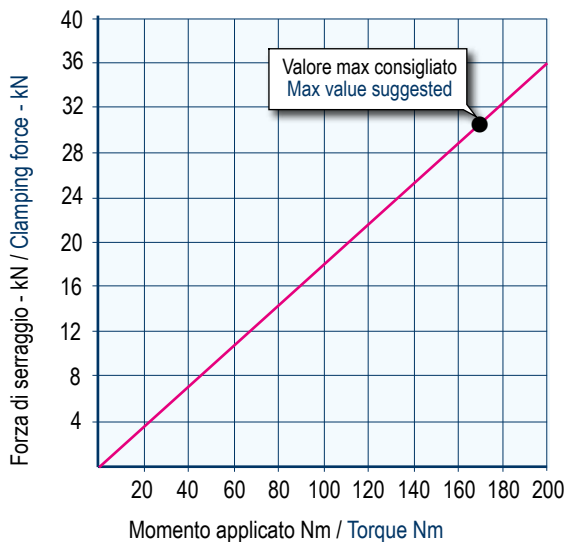
VITE: TPF 18 / 24 mm PASSO: 2 mm  
 SCREW: TPF 18 / 24 mm PITCH: 2 mm



## MORSE FMS TIPO 3-4

### FMS VISES TYPE 3-4

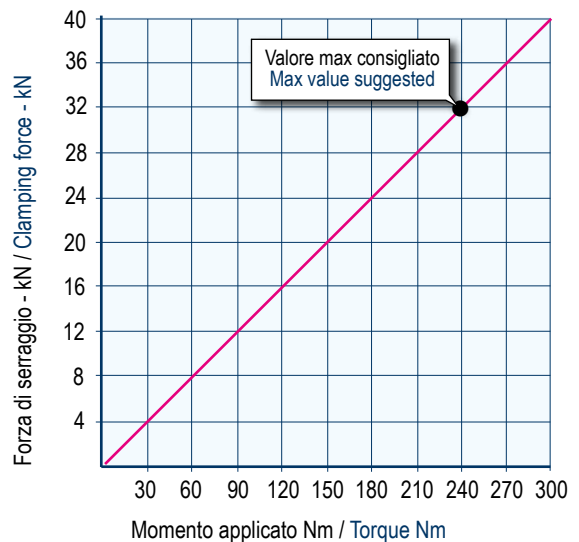
VITE: TPF 24 / 30 mm PASSO: 2 mm  
 SCREW: TPF 24 / 30 mm PITCH: 2 mm



## MORSE FMS TIPO 5-6

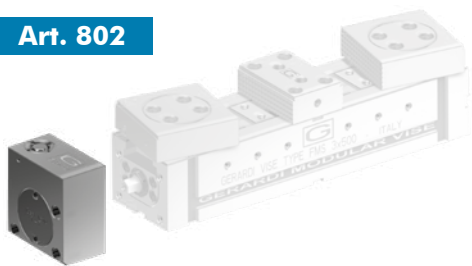
### FMS VISES TYPE 5-6

VITE: TPF 30 / 36 mm PASSO: 3 mm  
 SCREW: TPF 30 / 36 mm PITCH: 3 mm



# DIAGRAMMI CON FORZE DI SERRAGGIO

## DIAGRAMS WITH CLAMPING FORCE

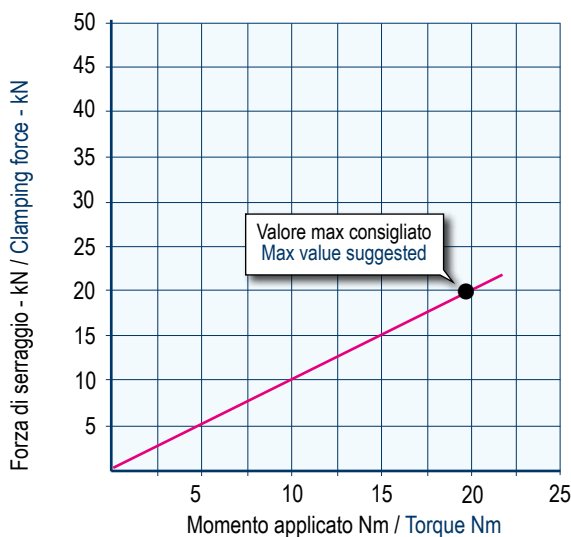
**Art. 802**


### MORSE FMS TIPO 1

### FMS VISES TYPE 1

VITE: TPF 18 / 20 mm PASSO: 2 mm  
 SCREW: TPF 18 / 20 mm PITCH: 2 mm  
 Moltiplicatore di potenza: Art. 802  
 Pressure multiplier: Art. 802  
 Rapporto di trasmissione: 1/9 / Gear ratio: 1/9

Type 1	
Cod.	5.80.21000



### SERRAGGIO MECCANICO CON

### MOLTIPLICATORE DI POTENZA Art.802

N.B. Alcuni fattori, come la lubrificazione, lo staffaggio, gli attriti ed altro, possono modificare i valori indicati fino al  $\pm 10\%$ .  
 Per un corretto utilizzo non superare i valori indicati nel grafico.  
**UTILIZZARE SOLAMENTE CHIAVE DINAMOMETRICA**

### MECHANICAL CLAMPING WITH

### PRESSURE MULTIPLIER Art.802

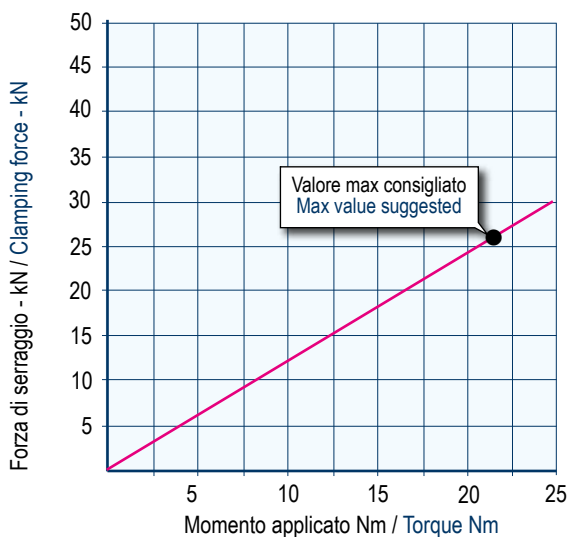
Some factor as lubrication, type of clamping on the machine table, frictions and more can modify above values within a  $\pm 10\%$  range. For optimum operation do not exceed chart values  
**WE RECOMMEND TO USE ONLY TORQUE WRENCH**

### MORSE FMS TIPO 2

### FMS VISES TYPE 2

VITE: TPF 18 / 24 mm PASSO: 2 mm  
 SCREW: TPF 18 / 24 mm PITCH: 2 mm  
 Moltiplicatore di potenza: Art. 802  
 Pressure multiplier: Art. 802  
 Rapporto di trasmissione: 1/7 / Gear ratio: 1/7

Type 2	
Cod.	5.80.22000



### MORSE FMS TIPO 3-4

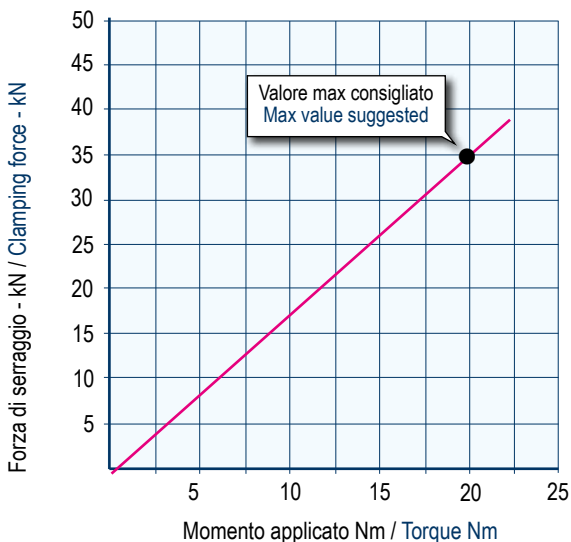
### FMS VISES TYPE 3-4

VITE: TPF 24 / 30 mm PASSO: 2 mm  
 SCREW: TPF 24 / 30 mm PITCH: 2 mm  
 Moltiplicatore di potenza: Art. 802  
 Pressure multiplier: Art. 802  
 Rapporto di trasmissione: 1/7 / Gear ratio: 1/7

Type 3	
Cod.	5.80.23000

Type 4	
Cod.	5.80.24000



### MORSE FMS TIPO 5-6

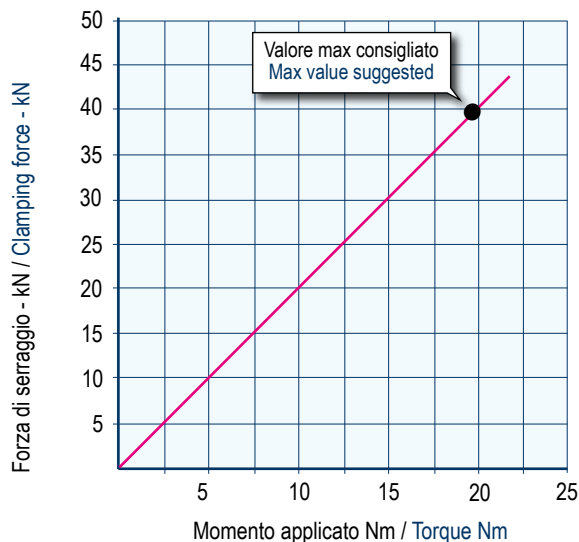
### FMS VISES TYPE 5-6

VITE: TPF 30 / 36 mm PASSO: 3 mm  
 SCREW: TPF 30 / 36 mm PITCH: 3 mm  
 Moltiplicatore di potenza: Art. 802  
 Pressure multiplier: Art. 802  
 Rapporto di trasmissione: 1/7 / Gear ratio: 1/7

Type 5	
Cod.	5.80.25000

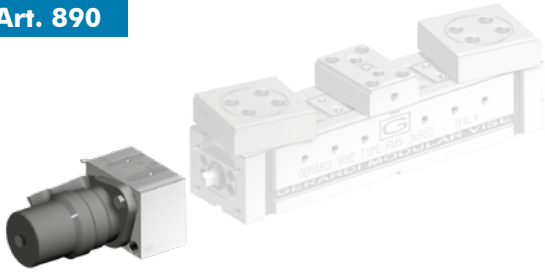
  

Type 6	
Cod.	5.80.26000


**5**

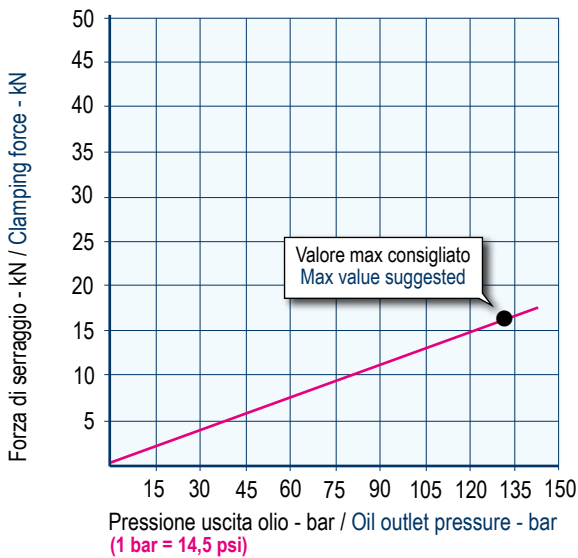
# DIAGRAMMI CON FORZE DI SERRAGGIO

## DIAGRAMS WITH CLAMPING FORCE

**Art. 890**


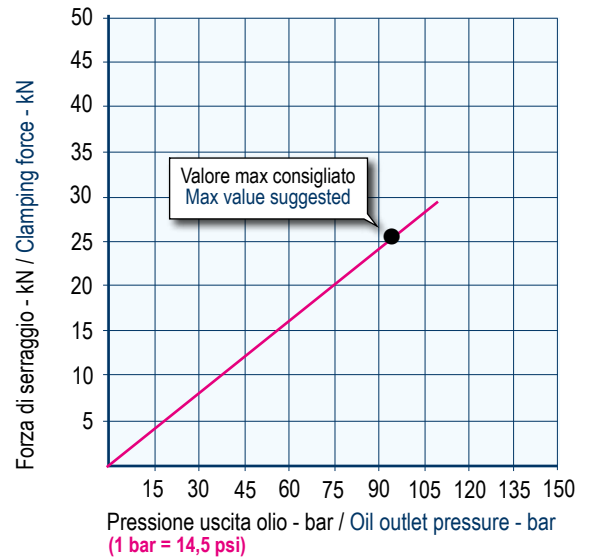
### MORSE FMS TIPO 1

#### FMS VISES TYPE 1

 VITE: TPF 18 / 20 mm PASSO: 2 mm  
 SCREW: TPF 18 / 20 mm PITCH: 2 mm  
 Motore idraulico tipo **OMM 32**  
 Hydraulic motor type **OMM 32**


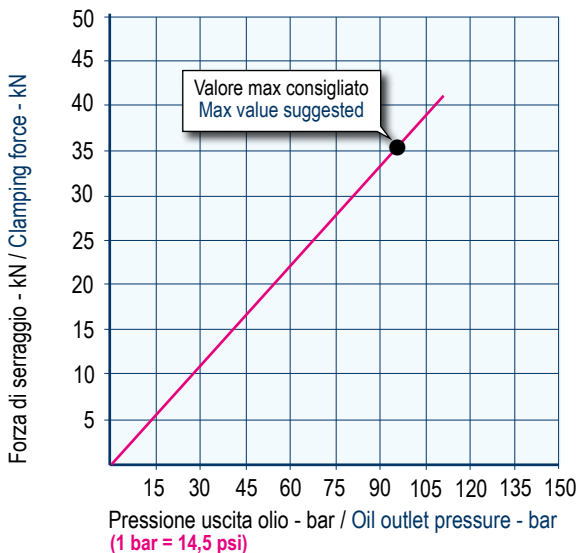
### MORSE FMS TIPO 2

#### FMS VISES TYPE 2

 VITE: TPF 18 / 24 mm PASSO: 2 mm  
 SCREW: TPF 18 / 24 mm PITCH: 2 mm  
 Motore idraulico tipo **OMP 80**  
 Hydraulic motor type **OMP 80**


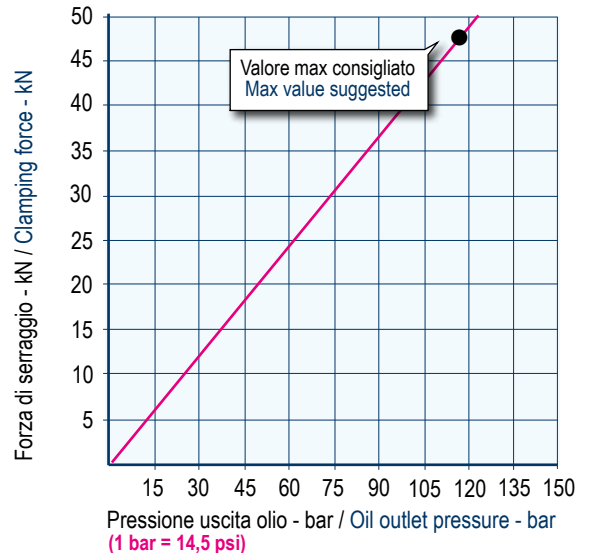
### MORSE FMS TIPO 3-4

#### FMS VISES TYPE 3-4

 VITE: TPF 24 / 30 mm PASSO: 2 mm  
 SCREW: TPF 24 / 30 mm PITCH: 2 mm  
 Motore idraulico tipo **OMR 200**  
 Hydraulic motor type **OMR 200**


### MORSE FMS TIPO 5-6

#### FMS VISES TYPE 5-6

 VITE: TPF 30 / 36 mm PASSO: 3 mm  
 SCREW: TPF 30 / 36 mm PITCH: 3 mm  
 Motore idraulico tipo **OMR 200**  
 Hydraulic motor type **OMR 200**


### SERRAGGIO MECCANICO TRAMITE MOTORE IDRAULICO Art.890

 N.B. Alcuni fattori, come la lubrificazione, lo staffaggio, gli attriti ed altro, possono modificare i valori indicati fino al  $\pm 10\%$ .  
 Per un corretto utilizzo non superare i valori indicati nel grafico

**ATTENZIONE! Azionamento idraulico ma serraggio meccanico (PIU' SICURO)**

### MECHANICAL CLAMPING THROUGH HYDRAULIC MOTOR Art.890

 Some factor as lubrication, type of clamping on the machine table, frictions and more can modify above values within a  $\pm 10\%$  range. For optimum operation do not exceed chart values

**IMPORTANT! Hydraulic control, but mechanical clamping (SAFER)**



# CONSIGLI PER L'UTILIZZO E LA MANUTENZIONE DELLE MORSE FMS INSTRUCTIONS FOR THE USE AND MAINTENANCE OF FMS VISES

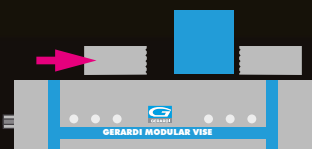
**3** MORSE IN **1**  
VISES IN



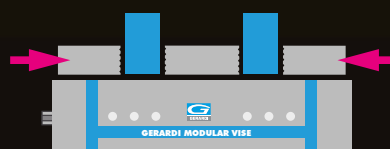
5



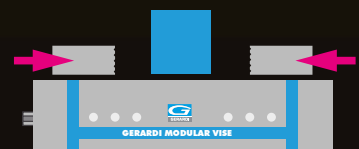
**SERRAGGI SINGOLI**  
SINGLE CLAMPING



**SERRAGGI DOPPI**  
DOUBLE CLAMPING



**AUTOCENTRANTE**  
SELF-CENTERING



## UTILIZZO E MANUTENZIONE DELLE MORSE FMS

### USE AND MAINTENANCE OF FMS VISES



#### Morse Singole, doppie, autocentranti

Single, double, self-centering Vises

**1**

Fare riferimento al disegno esploso, che accompagna tutte le morse e che riporta tutti i particolari costituenti la morsa FMS, denominati con numero di articolo, e riferiti sempre al tipo di morsa all'atto dell'acquisto.

Refer to your explosion view drawing accompanying all our vises and which identifies each part with its own article number. When requesting service or spare parts always refer to the vise type number.

**2**

La morsa può essere smontata seguendo attentamente tutte le istruzioni ed operazioni qui sotto descritte. Si consiglia vivamente di marcare pezzi e posizioni di tutti i particolari e rimontarli esattamente nella medesima posizione in cui sono stati smontati.

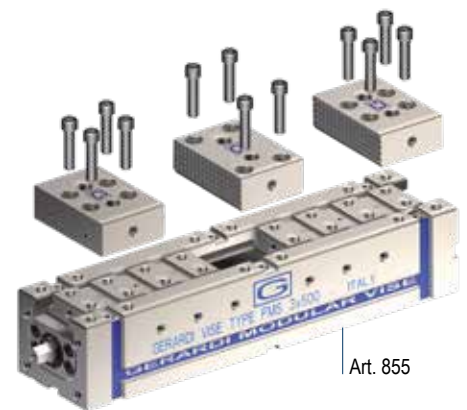
By the carefully following procedure and instructions the vise can be dismantled. We suggest all parts and their positions be marked so they can readily be reassembled to their original state.

#### OPERAZIONE 1

Togliere tutte le ganasce dal modulo base **Art.855**

#### OPERATION 1

Remove all the jaws from the vise module **Art.855**

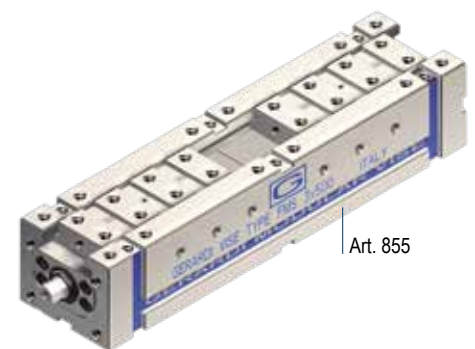


#### OPERAZIONE 2

Adesso il modulo base è completamente libero da ogni impedimento. Pulire attentamente il modulo base con un diluente appropriato. (Gasolio ecc).

#### OPERATION 2

Now the vise body module is completely free. Clean thoroughly with detergent oil or grease remover.

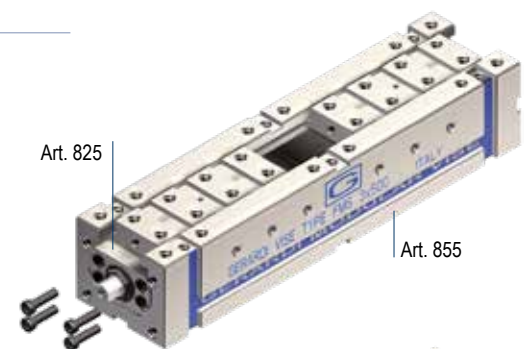


#### OPERAZIONE 3

Togliere le 4 viti di testa **Art. 801I** dalla piastra di contenimento **Art.825**

#### OPERATION 3

Unscrew and remove the 4 screws **Art. 801I** from the main screw holding plate **Art.825**

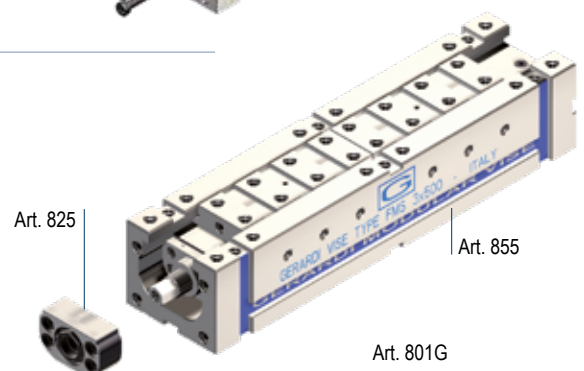


#### OPERAZIONE 4

Togliere la piastra di contenimento **Art.825**

#### OPERATION 4

Remove the main screw holding plate **Art.825**



# UTILIZZO E MANUTENZIONE DELLE MORSE FMS

## USE AND MAINTENANCE OF FMS VISES

### Morse Singole, doppie, autocentranti

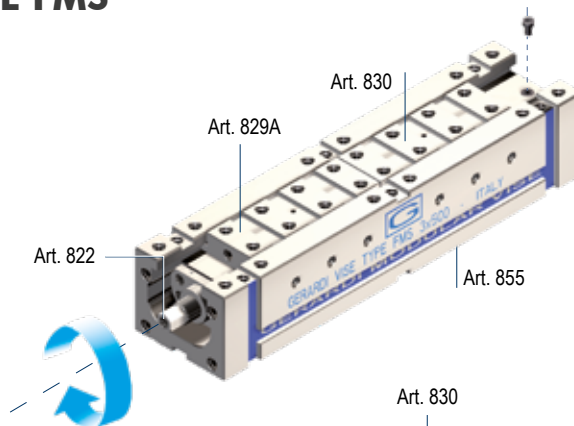
Single, double, self-centering Vises

#### OPERAZIONE 5

Girare la vite **Art. 822** in senso orario, affinché si possa togliere la vite **Art. 810G** dai ripari.

#### OPERATION 5

Turn the main screw **Art. 822** clockwise in order to remove the screw **Art. 810G** from cover.

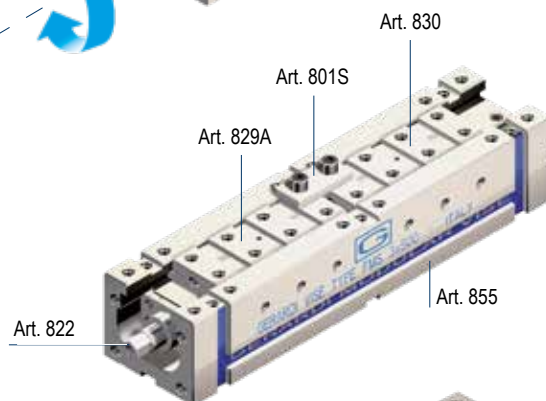


#### OPERAZIONE 6

Collegare le due slitte **Art. 829A - Art. 830**, utilizzando la piastrina di collegamento in dotazione **Art. 801S**, per non perdere la fase di posizionamento slitte.

#### OPERATION 6

Connect the 2 slides **Art. 829A - Art. 830**, using the connecting plate in the STD equipment **Art. 801S**, in order not to lose the slides reference on the main screw and also for safety reasons.

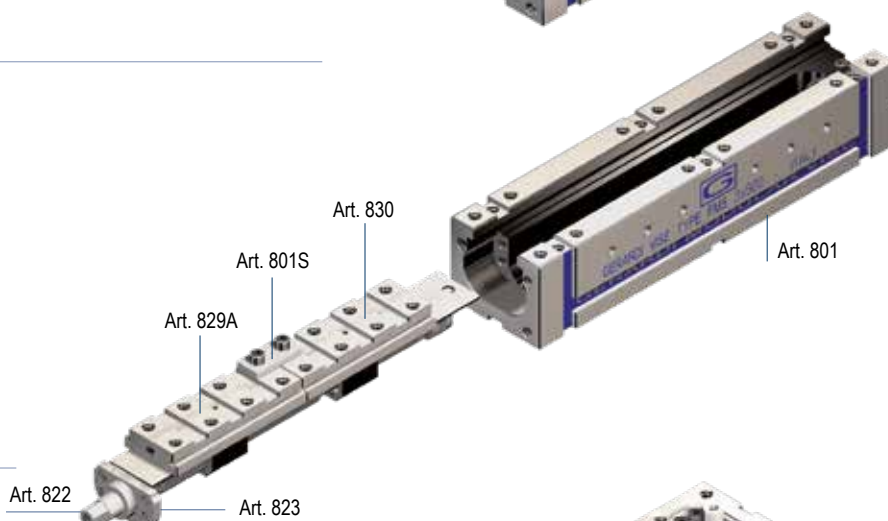


#### OPERAZIONE 7

Sfilare la vite **Art. 822** assieme con le due slitte e la piastra intermedia **Art. 823**

#### OPERATION 7

Remove the main screw **Art. 822** together with the 2 slides and the intermediate plate **Art. 823**

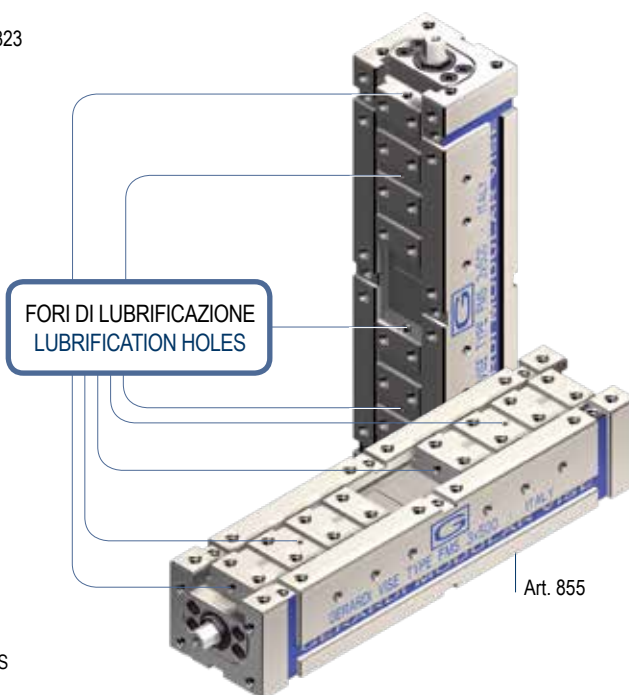


#### OPERAZIONE 8

Per rimontare la morsa, eseguire tutte le **8** operazioni in senso inverso senza forzare nel rimontaggio nessun particolare. L'unica manutenzione richiesta (a parte la periodica pulizia interna ed esterna della morsa) è la lubrificazione settimanale con olio molto fluido negli appositi fori situati nelle slitte. Il foro da scegliere per la lubrificazione dipende dalla posizione della morsa.

#### OPERATION 8

To reassemble the vise perform the **8** previous operations reverse order without forcing any stage or part. The only maintenance required (apart from periodic Internal and external vise cleaning) is weekly lubrication with low viscosity oil in the proper holes in the slides. Which lubrication hole is chosen depends on the vise position.



La morsa sopra descritta è completamente a chiusura MECCANICA MANUALE. I vari dispositivi, ossia i moltiplicatori di forza MANUALI, OLEODINAMICI, ELETTRICI ed OLEOPNEUMATICI, sono completamente autonomi e possono essere applicati o tolti dalle morse FMS senza modifica alcuna. La chiusura della morsa è sempre e comunque meccanica. (Vite/chiocciola)

This vise described above is for fully manual **MECHANICAL CLAMPING**. The various accessories we offer, **MECHANICAL, HYDRAULIC, ELECTRIC** or **IDROPNEUMATIC** torque multipliers are independent units that can be added or removed without affecting the basic vise. Vise clamping is always mechanical through nut and screw.

## FUNZIONAMENTO DELLA MORSA FMS

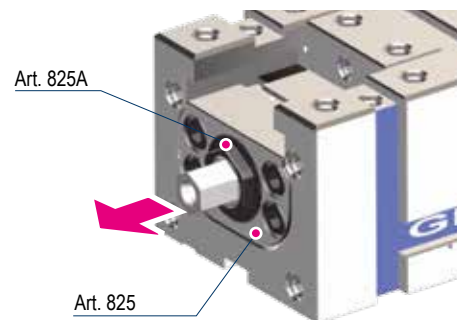
### FMS VISE OPERATION

#### MORSA DOPPIA

Con la ghiera **Art.825A** aperta, allineata alla piastra di contenimento **Art.825 - Fig.1**, la morsa e' predisposta per un doppio serraggio con uno scarto dimensionale massimo fra i due pezzi da bloccare di 8mm.

#### DOUBLE STATION VISE

With the locking **Art.825A** open, aligned to the main screw holding plate **Art.825 - Pic.1** the vise configuration is for a double clamping with a max difference between workpieces of 8mm.


**Fig. 1**

#### MORSA AUTOCENTRANTE

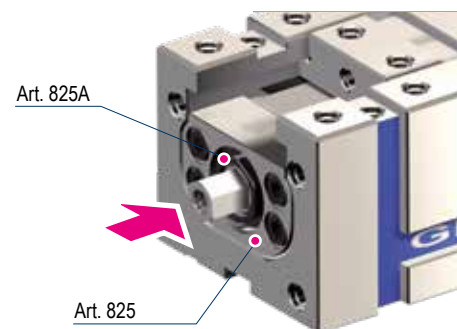
Con la ghiera **Art.825A** chiusa, all'interno della piastra di contenimento **Art. 825 - Fig.2**, la morsa è predisposta per il bloccaggio autocentrante di un solo pezzo (sono possibili sia bloccaggi esterno-interno che interno-esterno)

**ATTENZIONE:** In questa situazione il centro pezzo rispetto al centro cava è disassato di 2 mm verso la chiave di serraggio.

#### SELF CENTERING VISE

With the locking **Art.825A** closed, inside the main screw holding plate **Art.825 - Pic.2**, the vise configuration is for a self-centering clamping of one single piece (external to internal and internal o external clampings are possible)

**ATTENTION:** With this configuration the work-piece center with respect to the center slot is disaligned of 2 mm toward the clamping wrench


**Fig. 2**

#### MORSE SINGOLA

Sia con la ghiera **Art.825A** aperta che chiusa (punti 1 e 2) è possibile il serraggio di un unico pezzo con riferimento fisso.

#### SINGLE STATION VISE

With open and closed locking **Art.825A** it is possible to clamp a single piece with a fixed reference point

## COME TRASFORMARE LA MORSA FMS AUTOCENTRANTE IN UNA A BLOCCAGGIO SINGOLO o DOPPIO

### RESETTING OPERATIONS TO TRANSFORM SELF-CENTERING FMS VISE TO DOUBLE or SINGLE CLAMPING

#### OPERAZIONE 1

Inserire la bussola esagonale **Art.850H** nella sede della ghiera di riferimento **Art.825A**

#### OPERATION 1

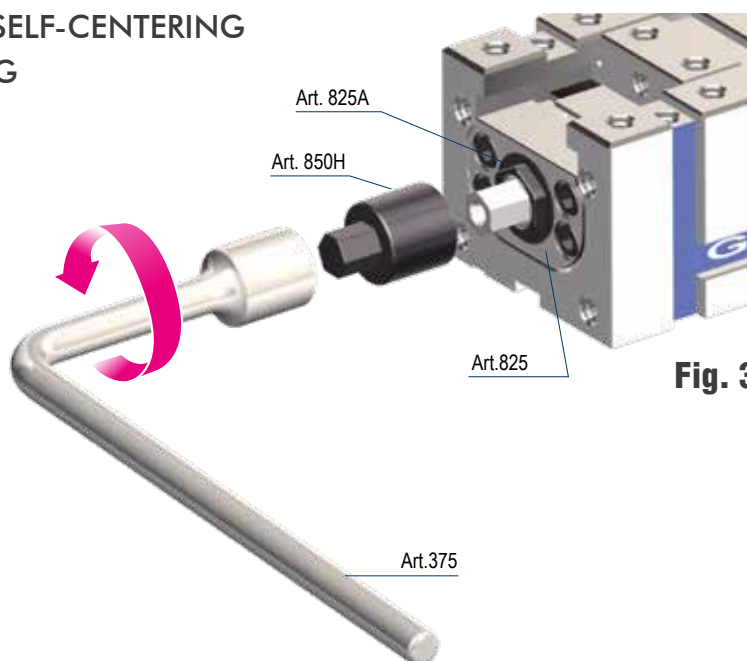
Insert the hexagonal bushing **Art.850H** in the locking **Art.825A**

#### OPERAZIONE 2

Inserire la chiave a pipa **Art.375** nella bussola esagonale **Art.850H**

#### OPERATION 2

Put the box wrench **Art.375** inside the hexagonal bushing **Art.850H**


**Fig. 3**

### OPERAZIONE 3

Girare la chiave a pipa in senso **antiorario** fino a portare la ghiera **Art.825A - Fig 3** a sporgere dalla piastra di contenimento **Art.825**

### OPERATION 3

Turn the box wrench **anticlockwise** to bring the locking **Art.825A - Pic.3** open in line with main screw holding plate **Art.825**

A questo punto la morsa FMS puo' serrare 2 pezzi contemporaneamente anche se le dimensioni tra loro sono diverse, con un margine di 8mm circa.

Può anche essere utilizzata per serraggi singoli, per il serraggio di un unico pezzo, spostando la ganasca fissa centrale (**Fig.4**) in una delle 2 cave laterali e naturalmente, rimuovendo una delle 2 ganasce mobili.

Per ottenere tutte le aperture possibili (data la lunghezza della base) può, in certe posizioni essere necessario l'utilizzo di ganasce speciali o spessori.

Now the FMS vise can clamp 2 work-pieces different dimensions (max difference 8mm). At the same time the vise can also be used as single station clamping by moving the central fix jaw (**Pic. 4**) in one of the 2 lateral positioning slots and of course by removing one movable jaw.

In order to reach all the possible openings (given the base length) it could be necessary, in some positions, the use of specials jaws or spacers.



**Fig. 4**



## COME TRASFORMARE LA MORSA FMS DA BLOCCAGGIO DOPPIO AD AUTOCENTRANTE

### RESETTING OPERATIONS TO TRANSFORM DOUBLE CLAMPING VISE TO SELF-CENTERING

### OPERAZIONE 1

Inserire la bussola esagonale **Art.850H** nella sede della ghiera di riferimento **Art.825A**

### OPERATION 1

Insert the hexagonal bushing **Art.850H** in the locking **Art.825A**

### OPERAZIONE 2

Inserire la chiave a pipa **Art.375** nella bussola esagonale **Art.850H**

### OPERATION 2

Put the box wrench **Art.375** inside the hexagonal bushing **Art.850H**

### OPERAZIONE 3

Girare la chiave a pipa **Art.375** in senso **orario** fino a portare la ghiera in battuta, ossia all'interno della piastra di contenimento (non forzare il serraggio). **Fig. 5**

### OPERATION 3

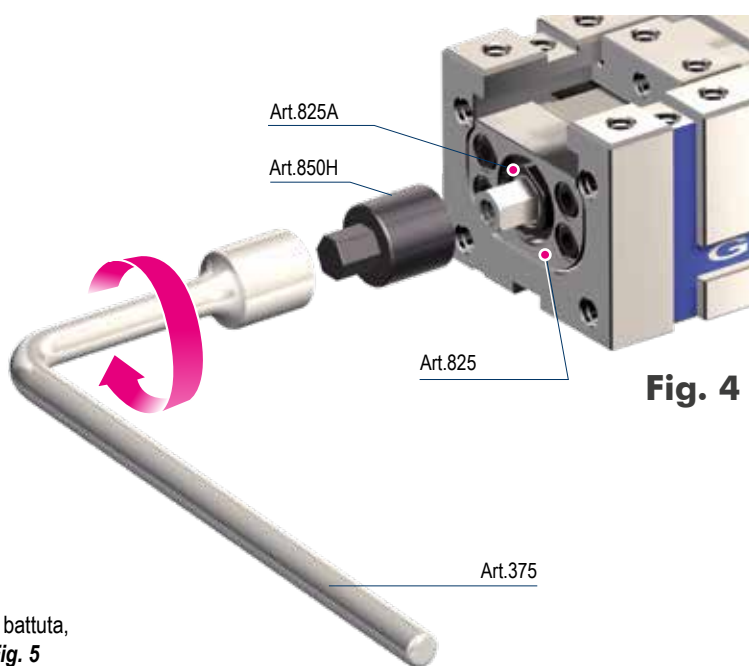
Turn the hexagonal wrench **Art.375 clockwise** to reach with the locking the bottom position, that inside the main screw holding plate (do not force the clamping). **Pic.5**

### OPERAZIONE 4

A questo punto la morsa FMS è autocentrante, può quindi serrare 1 pezzo garantendo il riferimento centrale dello stesso.

### OPERATION 4

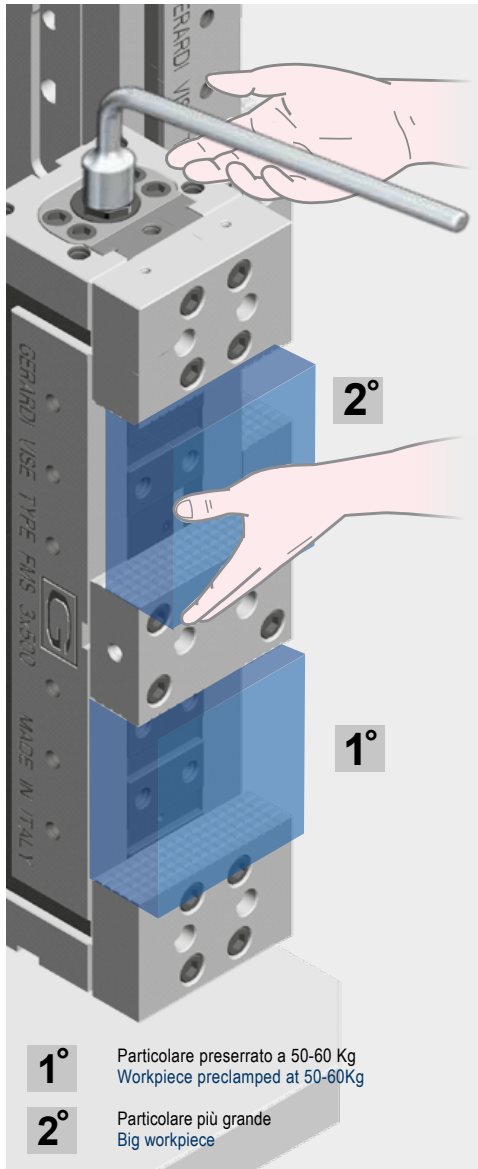
Now the FMS vise is self-centering, so it can clamp 1 work-piece and guarantee its central reference point.



**Fig. 4**

## DISPOSITIVO TERZA MANO PER MORSE FMS DOPPIE

### THIRD HAND ACCESSORY FOR DOUBLE FMS VISES



**1°** Particolare preserrato a 50-60 Kg  
Workpiece preclamped at 50-60Kg

**2°** Particolare più grande  
Big workpiece

### DISPOSITIVO TERZA MANO PER MORSE FMS DOPPIE

Il meccanismo "Terza mano" nella morsa in versione a doppia stazione, consente il carico e serraggio lieve del primo pezzo (dalla parte opposta alla chiave nella stazione inferiore della morsa), mentre nel frattempo viene caricato il secondo pezzo di dimensione maggiore (da cui la denominazione "Terza mano"). Tale dispositivo risulta particolarmente utile quando la morsa viene usata in posizione verticale. Con il dispositivo "Terza mano", i due particolari da lavorare possono essere di dimensioni diverse con uno scarto massimo fra loro di 2 mm.

Il meccanismo "Terza mano" standard ha una spinta di max 50 Kg. Volendo ottenere una spinta maggiore, basta sostituire le molle in dotazione con altre di maggior potenza (attenzione però a mantenere la stessa quota di altezza del pacchetto molle) oppure aggiungendo un altro distanziale di max. 3mm

**N.B: sostituendo le molle o aggiungendo un distanziale extra bisogna tener presente che il maggior precarico comporterà lo stesso carico di spinta anche girando la vite Art.822 a vuoto.**

Non volendo il meccanismo "Terza Mano", il tutto può essere semplicemente rimosso togliendo le molle con i relativi distanziali dalla loro sede naturale.

**Attenzione!! Assicurarsi che Art.850N rimanga fissato nella morsa per proteggere l'eventuale entrata di trucioli.**

### THIRD HAND DEVICE FOR DOUBLE STATION FMS VISES

The "Third Hand" device in the double station vise configuration, allows the first workpiece loaded to be gripped/clamped lightly with a little pressure (on the opposite side of the wrench and then in the lower vise station), while the second workpiece (bigger than first) is being loaded (from here the "third Hand" denomination). Such device is useful especially with the vise vertically positioned.

With the "Third Hand" device the two workpiece can be up to 2 mm different in gripping width.

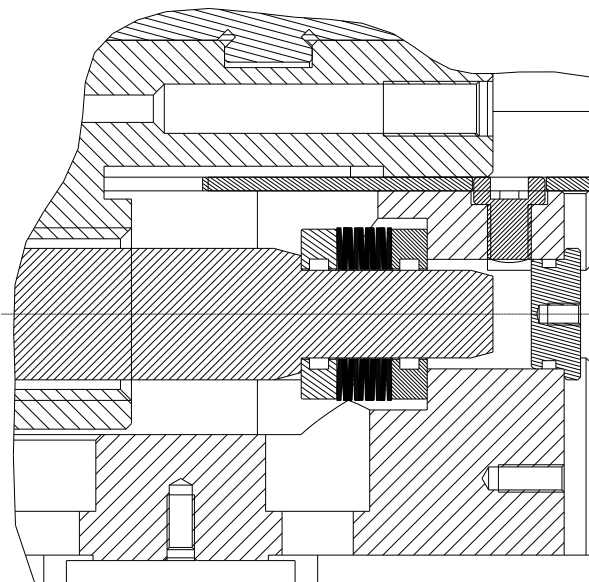
The standard "Third Hand" device has a max pressure of 50 Kg.

In order to reach a higher clamping power it is enough to preload by changing the standard springs with more powerful ones or by adding a spacer (max 3 mm). Be careful that remains the same spring and spacer packing height dimensions.

**P.S: By changing springs or adding extra spacer remember that the higher preload will give the same resistance (given by the more powerful preload) even just turning the main screw Art.822 freely.**

If the "Third Hand" device is not required, it could be simply removed by taking away the springs and their spacers from their standard position.

**Attention!! Make sure that the Art.850N remains fixed in the vise to provide protection from dirt getting inside the vise.**

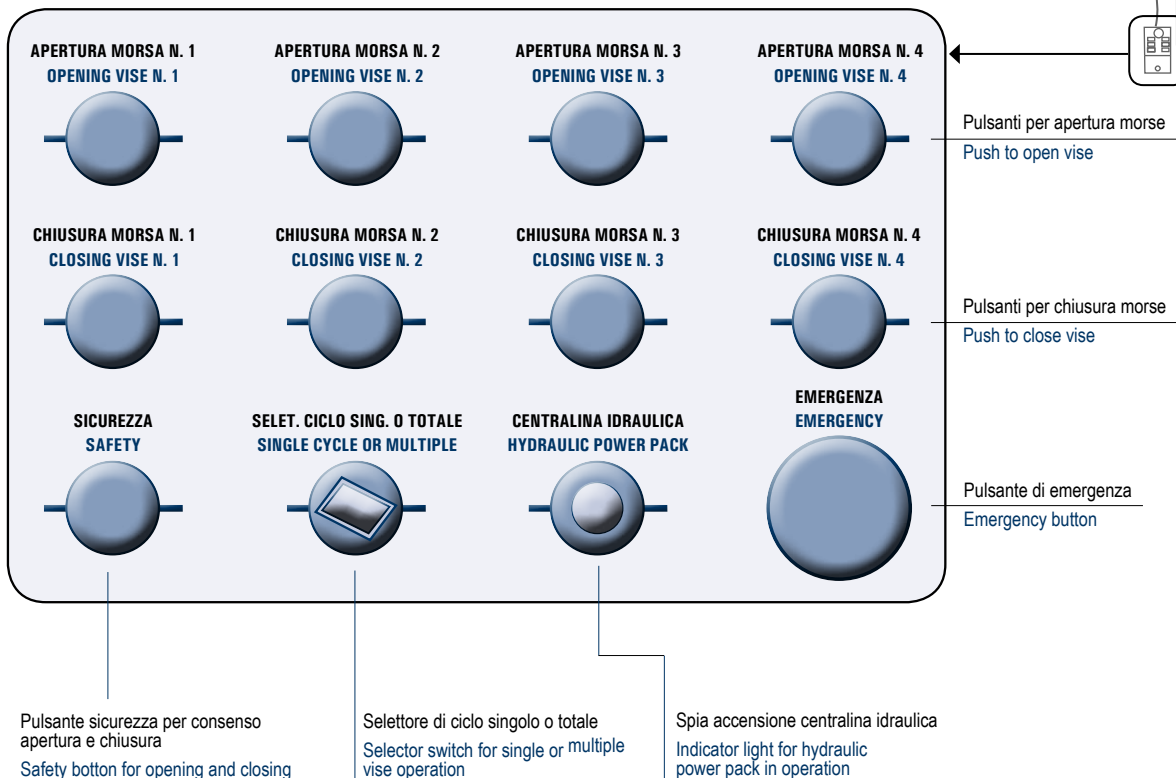
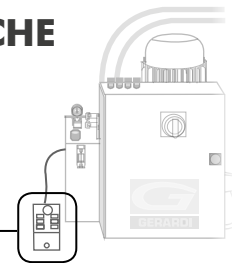


### Art.850P



# FUNZIONAMENTO COMANDO CENTRALINE ELETTROIDRAULICHE

## ELECTRO-HYDRAULIC POWER PACK UNIT INSTRUCTIONS



### FUNZIONAMENTO

Per comandare l'apertura o la chiusura delle morse, e' necessario, dopo avere acceso la centralina olio, premere un pulsante per il movimento contemporaneamente al pulsante di "sicurezza".  
 Per la chiusura occorre tenere premuti i pulsanti fino a pezzo bloccato.  
 Dopodiché entra in funzione il dispositivo di finecorsa automatico che sblocca l'elettrovalvola. per l'apertura tenere premuto fino al finecorsa elettromeccanico.  
 Per comandare il movimento di ogni morsa singolarmente, girare il selettore (sing.-totale) sulla posizione "o" (singolo).  
 Per ottenere il movimento contemporaneo di tutte le morse, girare il selettore sulla posizione "t" (totale).

### ATTENZIONE !

Accertarsi prima di comandare i movimenti, che la spia "centralina idraulica" sia accesa, e che nessuna persona sia in prossimità delle morse, per evitare infortuni.

### OPERATION - INSTRUCTION

To regulate the opening and closing of the vises it is necessary leaving turned on the main switch of the hydraulic power pack, to push the safety switch (button) at the same time as the open (or close) vise switch.

At the maximum opening of the vise the jaw movement limiting micro-switch will switch off jaw traverse.

To open or close the vises all together repeat the operation with the selector switch set to "multiple".

### ATTENTION !

Before operating vises always make sure there are no person in the immediate vicinity.

Tipo di olio raccomandato: **MOBIL VACUOLINE OIL 1405**  
 Cambiare filtro ogni **400** ore lavorative  
 Cambiare olio ogni **2000** ore lavorative  
 Lubrificazione vite e slitte morsa: **OLIO FLUIDO A BASSA VISCOSITA'**

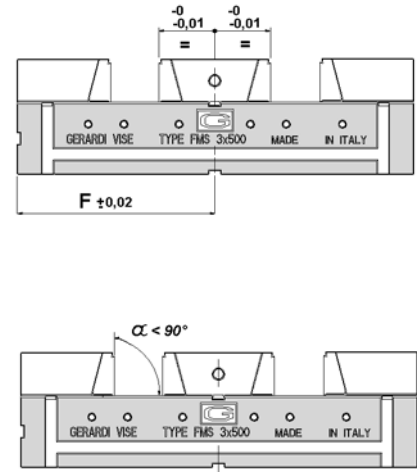
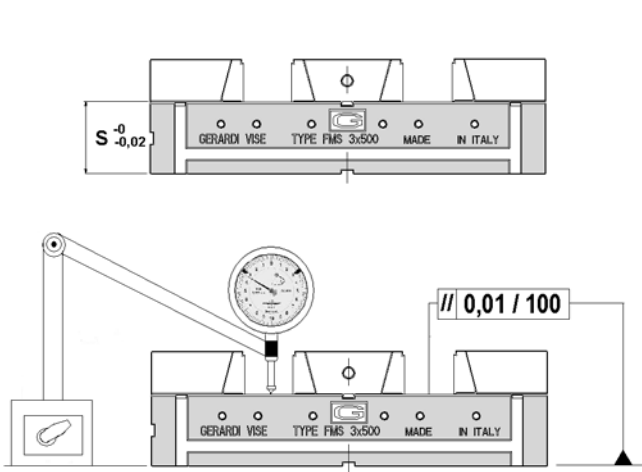
Type of oil recommended: **MOBIL VACUOLINE OIL 1405**  
 Change filter every **400** operating hours  
 Change oil every **2000** operating hours  
 Lubrication of vise screw & slides: **WITH LOW VISCOSITY OIL**

# ISTRUZIONI PER UN CORRETTO UTILIZZO

## INSTRUCTIONS FOR A PROPER USE

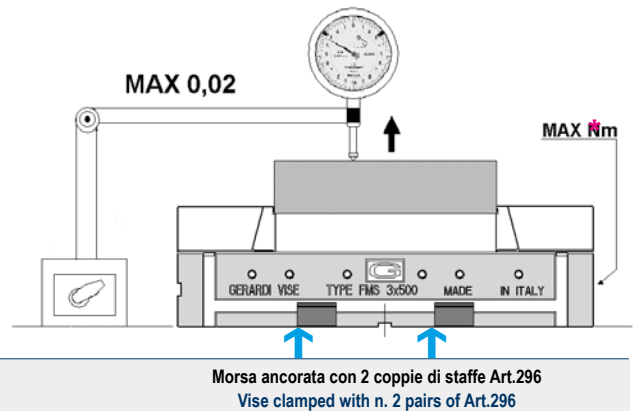
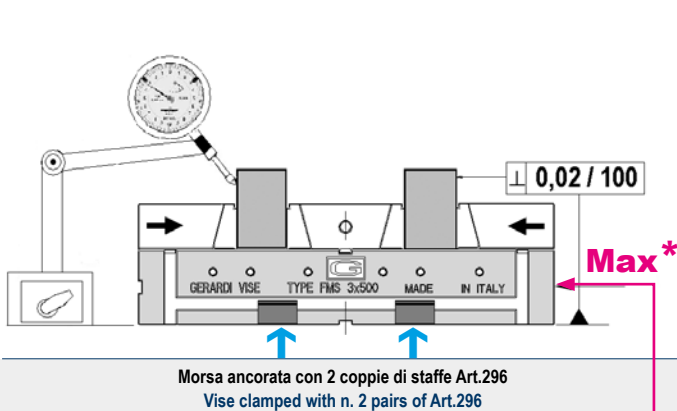
### TOLLERANZE GEOMETRICHE

### GEOMETRIC ACCURACIES



### TOLLERANZE DINAMICHE

### DINAMIC ACCURACIES



Art 865	* Coppia applicata - Torque Nm	Forza di serraggio - Clamping power
Morsa tipo 1    Vise type 1	120	2500 Kgf
Morsa tipo 2    Vise type 2	140	2500 Kgf
Morsa tipo 3    Vise type 3	180	3000 Kgf
Morsa tipo 4    Vise type 4	180	3000 Kgf
Morsa tipo 5    Vise type 5	240	3200 Kgf
Morsa tipo 6    Vise type 6	240	3200 Kgf

\* Max coppia applicabile per non superare i valori consigliati

1 kgf . m = 9.806