



MONOFORCE

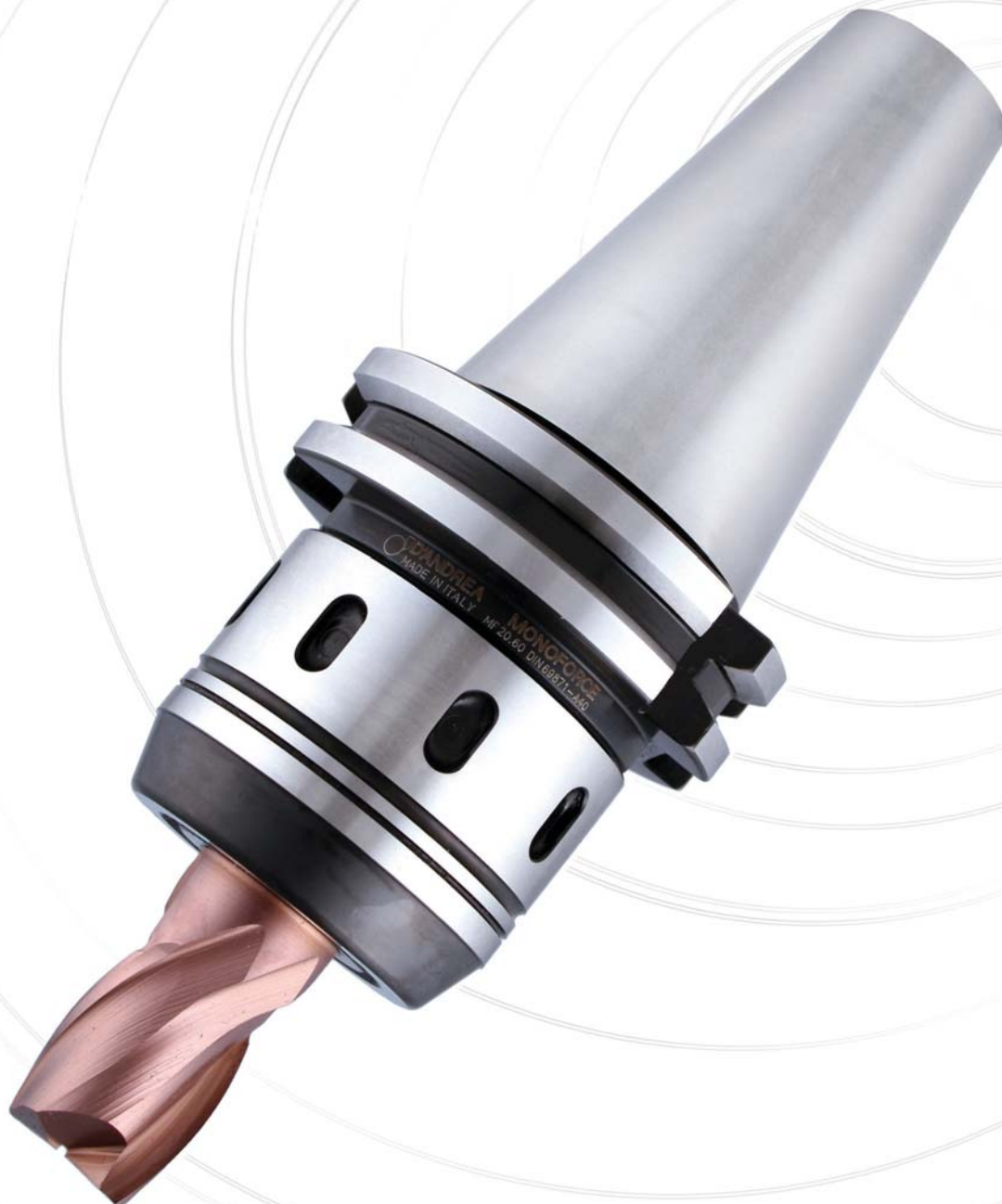
**High precision
ultra-tight
toolholder**

**Präzisionsspannzangenfutter
mit hochfester
Werkzeugspannung**

**Portaherramientas de
precisión de fuerte
blocaje**

**Porte-outil de
précision à
serrage fort**

**Portautensile di
precisione a
forte serraggio**



MONOforce

High precision
ultra-tight
toolholder

Präzisionsspannzangenfutter
mit hochfester
Werkzeugspannung

Portaherramientas de
precisión de fuerte
blocaje

Porte-outil de
précision à
serrage fort

Portautensile di
precisione a
forte serraggio



p. 179



DIN 69893 HSK-A



p. 40



p. 178



DIN 69871 AD+B

p. 41



p. 178



MAS 403 BT AD+B

p. 42



p. 179



CAT

p. 43



KIT

HSK
DIN
MAS
CAT

p. 44
p. 44
p. 45
p. 45

MONOforce

High precision
ultra-tight
toolholder

Präzisionsspannzangenfutter
mit hochfester
Werkzeugspannung

Portaherramientas de
precisión de fuerte
blocaje

Porte-outil de précision
à serrage fort

Portautensile di
precisione a forte
serraggio

MONOforce is a new addition to D'Andrea range of tool holders, which complements the existing balanceable FORCE chuck from Toprun family.

This new chuck provides an economical and innovative solution for tool holding, where precision and high clamping forces for the cutting tool are required.

MONOforce is available with tapers conforming to DIN 69871, MAS-BT and CAT both in ISO 40 and 50 sizes, and also HSK 63. The chuck accepts reduction bushes to suit cutters having shank sizes ranging from 3 mm. to 25 mm.

MONOforce can also be supplied in kit form, which includes of a set of reduction bushes and clamping wrench. **MONOforce** toolholders are manufactured by D'Andrea in their modern manufacturing plants in Italy.

MONOforce ist eine weitere Ergänzung der D'Andrea – Werkzeughalterpalette, welche die existierende, auswuchtbare FORCE-Spannzange aus der Toprun-Familie vervollständigt. Diese neue Futter bietet eine wirtschaftliche und innovative Lösung der Werkzeugspannung, wo Präzision und hohe Spannkraft für Fräswerkzeuge erforderlich sind.

MONOforce gibt es sowohl mit Aufnahmekegeln nach DIN 69871, MAS-BT, CAT beide in ISO 40 und ISO 50, als auch in HSK 63. Das Futter kann durch Reduzierhülsen für Fräser von 3-25 mm eingesetzt werden.

MONOforce wird auch in Kit-Form angeboten, welcher einen Satz Reduzierhülsen und Klemmschrauben beinhaltet. **MONOforce** Werkzeughalter werden in den modernen Produktionsräumen bei D'Andrea in Italien hergestellt.

MONOforce representa la nueva solución ideal y económica para el equipamiento de todas las Máquinas Herramientas donde existen exigencias de precisión y necesidad de bloqueo de herramientas que necesitan elevadas cargas de torsión.

MONOforce acompaña al ya famoso Force de la familia Toprun, el sistema patentado de portaherramientas integrales equilibrables.

El programa **MONOforce** para husillos maquina HSK 63, DIN 69871, MAS-BT y CAT está realizado en los tamaños ISO 40 y ISO 50 con pinzas de reducción de 12 mm, 20 mm y de 32 mm disponibles estándar en toda la gamma diametral compatible con estos diámetros de alojamientos para bloqueo de Ø 3 mm a Ø 25 mm.

Los portaherramientas **MONOforce**, enteramente producidos por D'Andrea, están disponibles también en prácticos Kits completos con pinzas de reducción y llaves de bloqueo.

Le **MONOforce** vient agrandir la série de produits D'Andrea dans la gamme des attachements appartenant à la famille Toprun et concernant les attachements équilibrables Force.

Ce nouvel attachement est une solution économique et innovatrice dans le domaine des outils de serrage où précision et grande force de clamage sont nécessaires pour les outils coupants.

MONOforce est disponible avec des cônes conformément aux normes DIN 69871, MAS-BT, CAT toutes les deux en ISO 40, 50 et également HSK 63. Les attachements acceptent des pinces de réduction afin de pouvoir appliquer des outils coupants ayant des queues entre 3 et 25 mm. **MONOforce** peut être fourni en kit, comprenant un set de pinces de réduction ainsi que la clé de serrage. Les attachements **MONOforce** sont fabriqués par D'Andrea dans leur nouvelle usine située en Italie.

MONOforce rappresenta la nuova soluzione ideale ed economica per l'attrezzatura di tutte le macchine utensili ove sussistano esigenze di precisione e necessità di serraggio utensili sollecitati a elevati carichi torsionali.

MONOforce si affianca al già noto Force della famiglia Toprun, il sistema brevettato di portautensili integrali bilanciabili.

Il programma **MONOforce** è costruito nella versione per mandrini macchina HSK 63, nonché DIN 69871, MAS-BT e CAT realizzati nelle grandezze ISO 40 e 50 e permette l'impiego di bussole di riduzione da 12 mm, 20 mm. e 32 mm. disponibili standard in tutta la gamma diametrale compatibile con questi diametri d'alloggiamento per serraggi da Ø 3 mm. a Ø 25 mm.

I portautensili **MONOforce** – interamente prodotti dalla D'Andrea – sono disponibili anche in pratici kit completi di bussole di riduzione e chiave di serraggio.



High precision ultra-tight toolholder

INSTRUCTIONS

- After lightly tightening by hand, tighten further by spanner (fig.1).
- Tighten by hand. Don't use hammer!
- Only for finishing operations and when higher run-out accuracy is required, return chuck ring just a little (1-2°) after face contact (fig. 2).
- Don't clamp without end mill

Präzisionsspannzangenfutter mit hochfester Werkzeugspannung

GEBRAUCHSANLEITUNG

- Nach leichtem Anziehen von Hand, weiter mit dem Schlüssel anziehen. (fig. 1).
- Ziehen Sie mit der Hand an. Verwenden Sie keinen Hammer!
- Drehen Sie nur für Schlichtbearbeitungen und wenn eine höhere Rundlaufgenauigkeit gefordert wird, die Spannmutter nachdem Flächenkontakt ein wenig (max. 1° - 2°) zurück (fig. 2).
- Klemmen Sie die Spannmutter nicht ohne einen Schaftfräser

Portaherramientas de precisión de fuerte blocaje

INSTRUCCIONES

- Después de haber girado a mano la tuerca, bloquear a fondo con la llave de apriete correspondiente (fig. 1).
- Apretar a mano. No utilizar nunca el martillo o tubo de prolongación !
- Sólo para operaciones de acabado, o donde se solicita una mayor precisión de run-out, después de apretar con la llave correspondiente, aflojar nuevamente de 1-2° después del contacto (fig. 2).
- No girar la tuerca sin la herramienta incorporada.

Porte-outil de précision à serrage fort

ISTRUCCIONES

- Après un léger serrage manuel, continuez à serrer à l'aide de la clé de serrage. (fig. 1).
- Serrer à la main. Ne pas utiliser un marteau!
- Seulement pour des opérations de finition et uniquement lorsqu'une plus grande précision est requise, faire tourner très légèrement le joint du mandrin, (1° - 2° maximum), après le contact (fig. 2).
- Ne serrer pas le joint du mandrin sans la fraise.

Portautensile di precisione a forte serraggio

ISTRUZIONI

- Dopo aver serrato a mano la ghiera, bloccare a fondo con l'apposita chiave di serraggio (fig.1).
- Serrare a mano. Non usare mai martello o tubo di prolunga!
- Solo per operazioni di finitura, ove è richiesto una maggiore precisione di run-out, dopo il serraggio con l'apposita chiave, allentare nuovamente di 1-2° dopo il contatto (fig. 2).
- Non serrare la ghiera senza utensile inserito.



fig.1



fig.2

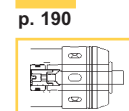
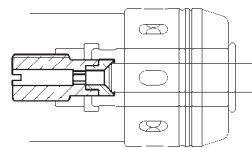
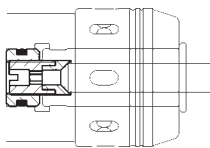
SETTING SCREW FOR INTERNAL COOLANT SUPPLY

EINSTELLSCRAUBE FÜR INNERE KÜHLMITTELZUFUHR

TORNILLO REGULACIÓN PASO REFRIGERANTE

VIS DE RÉGLAGE POUR L'ALIMENTATION DE REFROIDISSEMENT

VITE REGOLAZIONE CON PASSAGGIO REFRIGERANTE



p. 190

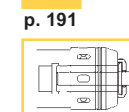
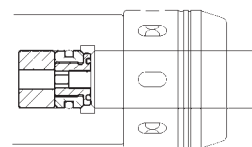
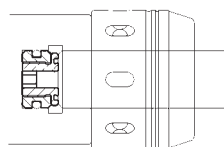
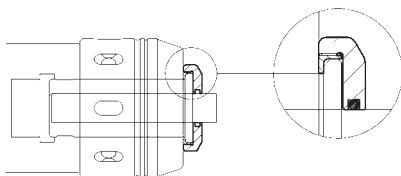
SEALING DEVICE FOR HIGH PRESSURE COOLANT SUPPLY (max. 40 BAR)

DICHTVORRICHTUNG FÜR HOCHDRUCK- KÜHLMITTELZUFUHR (max. 40 BAR)

DISPOSITIVOS DE RETENCIÓN PAEA REFRIGERANTE A ALTA PRESIÓN (max. 40 BAR)

SYSTÈME D'ÉTANCHÉITÉ POUR L'ALIMENTATION DE REFROIDISSEMENT HAUTE PRESSION (max. 40 BAR)

DISPOSITIVI A TENUTA PER REFRIGERANTE AD ALTA PRESSIONE (max. 40 BAR)



p. 191

High precision
ultra-tight toolholder

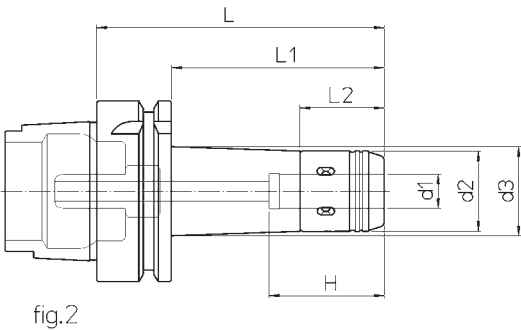
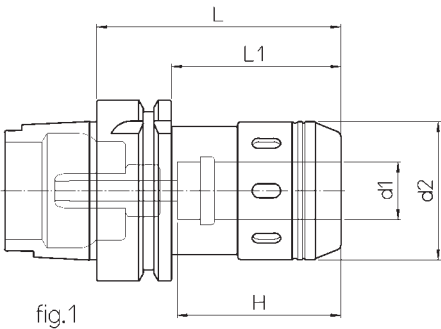
Präzisionsspannzangenfutter
mit hochfester
Werkzeugspannung

Portaherramientas de
precisión de fuerte
blocaje

Porte-outil de
précision à serrage
fort

Portautensile di
precisione a forte
serraggio

MONOforce



Supplied with coolant
tube - without
clamping wrench

Lieferung inklusive
Kühlmittelrohr. Ohne
Spannzangen und
Spannschlüssel.

Completo con racor
para el refrigerante -
Llave de apriete
excluida

Pourvu de raccord
pour liquide
d'arrosage - Sans clef
de serrage

Completo di raccordo
per il refrigerante -
Chiave di serraggio
esclusa

HSK-A	REF.	CODE	d ₁	d ₂	d ₃	H	L	L ₁	L ₂	kg	fig.
63	HSK-A63 MF12.70	71HSK-A63MF1207	12	28	-	46	70	44	-	0.8	1
	HSK-A63 MF12.100	71HSK-A63MF1210	12	28	31	46	100	74	29.5	1.1	2
	HSK-A63 MF20.85	71HSK-A63MF2008	20	48	-	60	85	59	-	1.2	1
	HSK-A63 MF20.125	71HSK-A63MF2012	20	48	-	60	125	99	-	1.7	2
	HSK-A63 MF32.105	71HSK-A63MF3210	32	66	-	80	105	-	-	2	1
	HSK-A63 MF32.140	71HSK-A63MF3214	32	66	-	80	140	-	-	2.6	2

p. 209

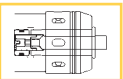
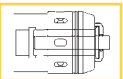
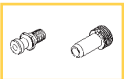
p. 190

p. 186

p. 179

p. 191

p. 190



DIN 69871 AD+B



High precision
ultra-tight toolholder

Präzisionsspannzangenfutter
mit hochfester
Werkzeugspannung

Portaherramientas de
precisión de fuerte
blocaje

Porte-outil de
précision à serrage
fort

Portautensile di
precisione a forte
serraggio

MONOforce

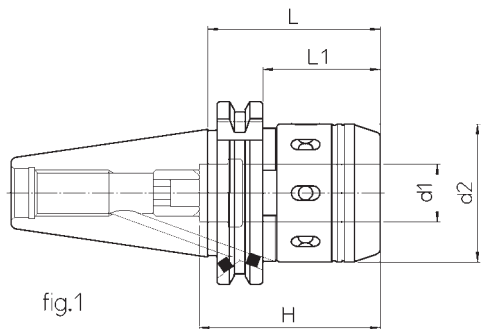


fig.1

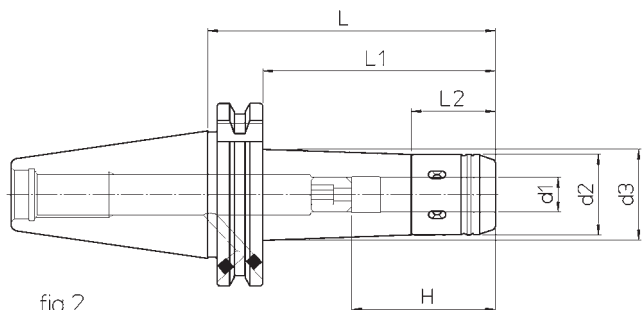


fig.2

without
clamping wrench

Ohne Spannschlüssel.

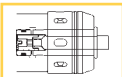
Llave de apriete
excluida

Sans clef de serrage

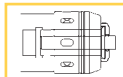
Chiave di serraggio
esclusa

ISO	REF.	CODE	d ₁	d ₂	d ₃	H	L	L ₁	L ₂	kg	fig.
40	DIN69871-AD+B40 MF12.50	71DIN-B40MF1205	12	28	-	46	50	31	-	0.8	1
	DIN69871-AD+B40 MF12.100	71DIN-B40MF1210	12	28	32	46	100	81	29.5	1.2	2
	DIN69871-AD+B40 MF20.60	71DIN-B40MF2006	20	48	-	63	60	41	-	1.1	1
	DIN69871-AD+B40 MF20.100	71DIN-B40MF2010	20	48	-	63	100	81	-	1.4	2
	DIN69871-AD+B40 MF32.95	71DIN-B40MF3209	32	66	-	80	95	-	-	1.6	1
	DIN69871-AD+B40 MF32.140	71DIN-B40MF3214	32	66	-	80	140	-	-	2.0	2
50	DIN69871-AD+B50 MF20.80	71DIN-B50MF2008	20	48	-	63	80	61	-	2.3	1
	DIN69871-AD+B50 MF20.125	71DIN-B50MF2012	20	48	-	63	125	106	-	2.7	2
	DIN69871-AD+B50 MF32.75	71DIN-B50MF3207	32	66	-	90	75	56	-	2.8	1
	DIN69871-AD+B50 MF32.160	71DIN-B50MF3216	32	66	-	90	160	141	-	3.2	2

p. 190



p. 191



p. 178



p. 186



p. 190



p. 210



High precision
ultra-tight toolholder

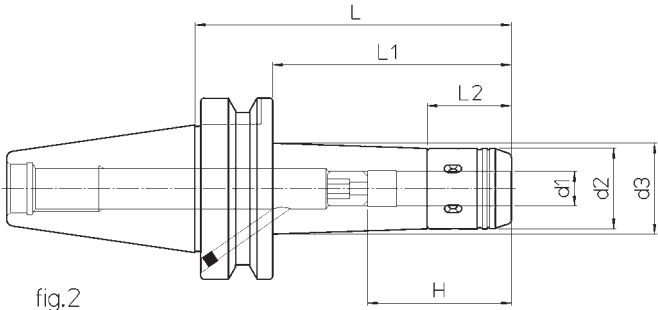
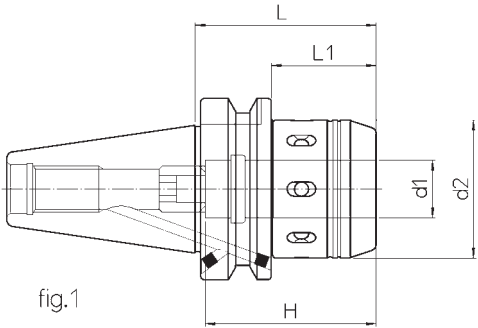
Präzisionsspannzangenfutter
mit hochfester
Werkzeugspannung

Portaherramientas de
precisión de fuerte
blocaje

Porte-outil de
précision à serrage
fort

Portautensile di
precisione a forte
serraggio

MONOforce



without
clamping wrench

Ohne Spannschlüssel.

Llave de apriete
excluida

Sans clef de serrage

Chiave di serraggio
esclusa

ISO	REF.	CODE	d ₁	d ₂	d ₃	H	L	L ₁	L ₂	kg	fig.
40	MAS403 BT40-AD+B MF12.60	71MBT-B40MF1206	12	28	-	46	60	33	-	0.9	1
	MAS403 BT40-AD+B MF12.100	71MBT-B40MF1210	12	28	31	46	100	73	29.5	1.4	2
	MAS403 BT40-AD+B MF20.63	71MBT-B40MF2006	20	48	-	63	63	36	-	1.3	1
	MAS403 BT40-AD+B MF20.100	71MBT-B40MF2010	20	48	-	63	100	73	-	1.9	2
	MAS403 BT40-AD+B MF32.90	71MBT-B40MF3209	32	66	-	80	90	-	-	2.1	1
	MAS403 BT40-AD+B MF32.140	71MBT-B40MF3214	32	66	-	80	140	-	-	3.1	2
50	MAS403 BT50-AD+B MF20.85	71MBT-B50MF2008	20	48	-	63	85	47	-	3.7	1
	MAS403 BT50-AD+B MF20.125	71MBT-B50MF2012	20	48	-	63	125	87	-	4.1	2
	MAS403 BT50-AD+B MF32.95	71MBT-B50MF3209	32	66	-	90	95	57	-	4.4	1
	MAS403 BT50-AD+B MF32.160	71MBT-B50MF3216	32	66	-	90	160	122	-	4.9	2

p. 211

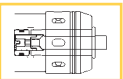
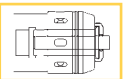
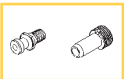
p. 190

p. 186

p. 178

p. 191

p. 190



High precision
ultra-tight toolholder

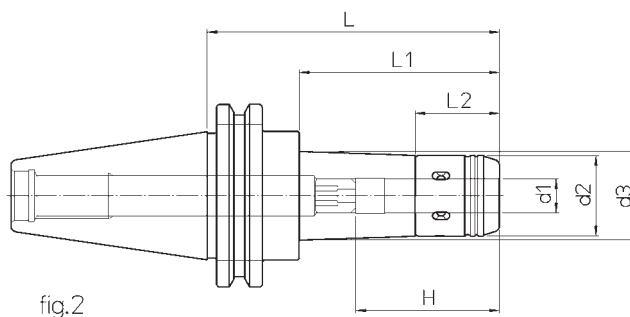
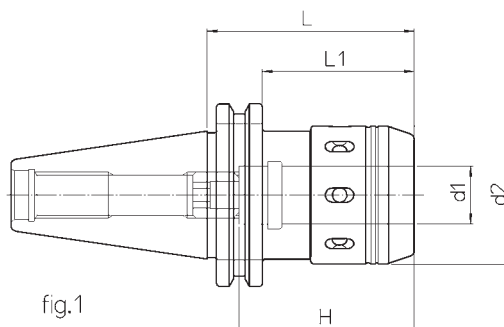
Präzisionsspannzangenfutter
mit hochfester
Werkzeugspannung

Portaherramientas de
precisión de fuerte
blocaje

Porte-outil de
précision à serrage
fort

Portautensile di
precisione a forte
serraggio

MONOforce



without
clamping wrench

Ohne Spannschlüssel.

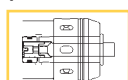
Llave de apriete
excluida

Sans clef de serrage

Chiave di serraggio
esclusa

CAT	REF.	CODE	d ₁	d ₂	d ₃	H	L	L ₁	L ₂	kg	fig.
40	CAT40 UNC MF1/2 2.50	71CAT-40-MF1306	1/2"	1.10"	-	1.81"	2.50"	1.25"	-	0.6	1
	CAT40 UNC MF1/2 4.00	71CAT-40-MF1310	1/2"	1.10"	1.21"	1.81"	4.00"	2.75"	1.16"	1.2	2
	CAT40 UNC MF3/4 3.00	71CAT-40-MF1907	3/4"	1.89"	-	2.48"	3.00"	2.25"	-	1.1	1
	CAT40 UNC MF3/4 5.00	71CAT-40-MF1912	3/4"	1.89"	-	2.48"	5.00"	4.25"	-	1.7	2
	CAT40 UNC MF1-1/4 4.25	71CAT-40-MF3110	1-1/4"	2.59"	-	3.15"	4.25"	-	-	1.6	1
	CAT40 UNC MF1-1/4 5.50	71CAT-40-MF3114	1-1/4"	2.59"	-	3.15"	5.50"	-	-	2.5	2
50	CAT50 UNC MF3/4 3.00	71CAT-50-MF1907	3/4"	1.89"	-	2.48"	3.00"	1.56"	-	2.3	1
	CAT50 UNC MF3/4 6.00	71CAT-50-MF1915	3/4"	1.89"	-	2.48"	6.00"	4.56"	-	2.9	2
	CAT50 UNC MF1-1/4 3.25	71CAT-50-MF3108	1-1/4"	2.59"	-	3.54"	3.25"	2.50"	-	2.8	1
	CAT50 UNC MF1-1/4 6.50	71CAT-50-MF3116	1-1/4"	2.59"	-	3.54"	6.50"	5.75"	-	3.9	2

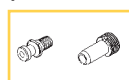
p. 190



p. 191



p. 179



p. 186



p. 190



p. 212



HSK



KIT K01 MONOFORCE 12

1 MONOFORCE 12
1 RC 12.04
1 RC 12.06
1 RC 12.08
1 RC 12.10
1 CHV 28

KIT K01 MONOFORCE 20

1 MONOFORCE 20
1 RC 20.06
1 RC 20.08
1 RC 20.10
1 RC 20.12
1 RC 20.16
1 CHV 50

KIT K01 MONOFORCE 32

1 MONOFORCE 32
1 RC 32.06
1 RC 32.08
1 RC 32.10
1 RC 32.12
1 RC 32.16
1 RC 32.20
1 RC 32.25
1 CHV 75

HSK-A	REF.	CODE
63	KIT K01 MONOFORCE 12.70 HSK63	7KHSK-A63MF1207
	KIT K01 MONOFORCE 20.85 HSK63	7KHSK-A63MF2008
	KIT K01 MONOFORCE 32.105 HSK63	7KHSK-A63MF3210

DIN



KIT K01 MONOFORCE 12

1 MONOFORCE 12
1 RC 12.04
1 RC 12.06
1 RC 12.08
1 RC 12.10
1 CHV 28

KIT K01 MONOFORCE 20

1 MONOFORCE 20
1 RC 20.06
1 RC 20.08
1 RC 20.10
1 RC 20.12
1 RC 20.16
1 CHV 50

KIT K01 MONOFORCE 32

1 MONOFORCE 32
1 RC 32.06
1 RC 32.08
1 RC 32.10
1 RC 32.12
1 RC 32.16
1 RC 32.20
1 RC 32.25
1 CHV 75

ISO	REF.	CODE
40	KIT K01 MONOFORCE 12.50 DIN40AD+B	7KDIN-B40MF1205
	KIT K01 MONOFORCE 20.60 DIN40AD+B	7KDIN-B40MF2006
	KIT K01 MONOFORCE 32.95 DIN40AD+B	7KDIN-B40MF3209
50	KIT K01 MONOFORCE 20.80 DIN50AD+B	7KDIN-B50MF2008
	KIT K01 MONOFORCE 32.75 DIN50AD+B	7KDIN-B50MF3207

MAS


**KIT K01
MONOFORCE 12**

1 MONOFORCE 12
1 RC 12.04
1 RC 12.06
1 RC 12.08
1 RC 12.10
1 CHV 28

**KIT K01
MONOFORCE 20**

1 MONOFORCE 20
1 RC 20.06
1 RC 20.08
1 RC 20.10
1 RC 20.12
1 RC 20.16
1 CHV 50

**KIT K01
MONOFORCE 32**

1 MONOFORCE 32
1 RC 32.06
1 RC 32.08
1 RC 32.10
1 RC 32.12
1 RC 32.16
1 RC 32.20
1 RC 32.25
1 CHV 75

ISO	REF.	CODE
40	KIT K01 MONOFORCE 12.60 BT40AD+B	7KMBT-B40MF1206
	KIT K01 MONOFORCE 20.63 BT40AD+B	7KMBT-B40MF2006
	KIT K01 MONOFORCE 32.90 BT40AD+B	7KMBT-B40MF3209
50	KIT K01 MONOFORCE 20.85 BT50AD+B	7KMBT-B50MF2008
	KIT K01 MONOFORCE 32.95 BT50AD+B	7KMBT-B50MF3209

CAT


**KIT K01
MONOFORCE 1/2**

1 MONOFORCE 1/2
1 RC 1/2.1/4
1 RC 1/2.5/16
1 RC 1/2.3/8
1 CHV 28

**KIT K01
MONOFORCE 3/4**

1 MONOFORCE 3/4
1 RC 3/4.1/4
1 RC 3/4.5/16
1 RC 3/4.3/8
1 RC 3/4.1/2
1 RC 3/4.5/8
1 CHV 50

**KIT K01
MONOFORCE 1-1/4**

1 MONOFORCE 1-1/4
1 RC 1-1/4.3/8
1 RC 1-1/4.1/2
1 RC 1-1/4.5/8
1 RC 1-1/4.3/4
1 RC 1-1/4.1
1 CHV 75

CAT	REF.	CODE
40	KIT K01 MONOFORCE 1/2 2.50 CAT40	7KCAT-40-MF1306
	KIT K01 MONOFORCE 3/4 3.00 CAT40	7KCAT-40-MF1907
	KIT K01 MONOFORCE 1 1/4 4.25 CAT40	7KCAT-40-MF3110
50	KIT K01 MONOFORCE 3/4 3.00 CAT50	7KCAT-50-MF1907
	KIT K01 MONOFORCE 1 1/4 3.25 CAT50	7KCAT-50-MF3108