KEMMER

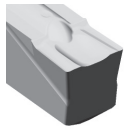
Sistema P92

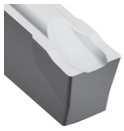
KEMMER

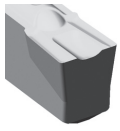
P92 - Sistema multifunzionale a 2 taglienti

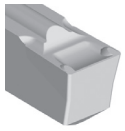
La gamma principale per troncatura, scanalatura, tornitura bidirezionale e scanalatura frontale.

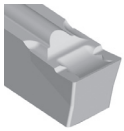
Ampia scelta di utensili: monoblocco, lame, sistemi modulari e con refrigerazione interna per un eccezionale versatilità.


BTNG

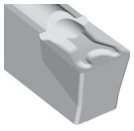

BTNN


BTNX


CTD


CTD ALU


CTDS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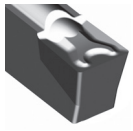
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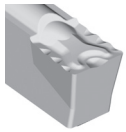
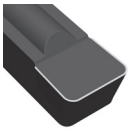
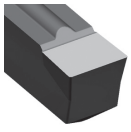
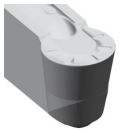
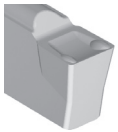

MTNZ

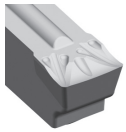

OTXC


OTXS

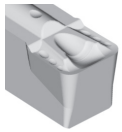

RTNG


RTNX

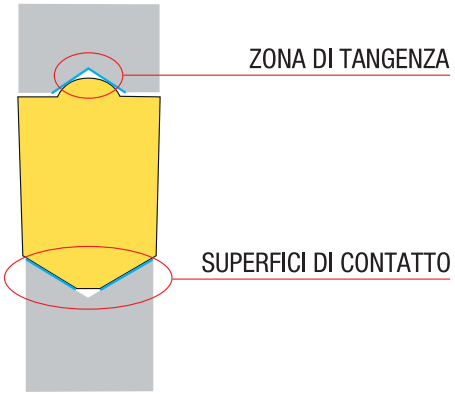

SCTD


STNG-STNZ


VTNS


XTNS

- 17 diverse geometrie e oltre 20 gradi per affrontare qualsiasi lavorazione.

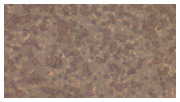


- Perfetto accoppiamento tra utensile e inserto grazie allo speciale indexaggio prismatico.
- Disponibilità di inserti con larghezza da 1.5 a 10 mm.
- Geometrie stampate per lavorazioni estremamente economiche e rettificate per materiali di difficile lavorabilità.

! I sistemi P92, P92 P e P92 S non sono intercambiabili.

Sistema P92 — SUBSTRATI E RIVESTIMENTI

La nomenclatura dei gradi Kemmer comprende l'indicazione di substrato e rivestimento **GRADO = SUBSTRATO + RIVESTIMENTO**

SUBSTRATO	IMPIEGO	MICROSTRUTTURA	CARATTERISTICHE
GF110	◯	 Carburo di tungsteno: 93.5% Cobalto: 6% Altri carburi: 0.5% Granulometria: 0.5 µm	Metallo duro micrograna. Substrato molto resistente all'usura. Applicazioni stabili anche ad alte velocità di taglio.
KM	◯	 Carburo di tungsteno: 90% Cobalto: 10% Granulometria: 0.8 µm	Ottima combinazione tra tenacità e resistenza all'usura. Prima scelta per impiego generico.
PM	◯	 Carburo di tungsteno: 77% Cobalto: 11% Altri carburi: 12% Granulometria: 2.5 µm	Substrato estremamente tenace per la massima sicurezza operativa. Ideale per taglio interrotto, condizioni instabili e lavorazioni a medio-bassa velocità di taglio.
GS530	◯	 Cermet	Ideale in finitura. Garantisce una lunga e costante durata del tagliente.

RIVESTIMENTO	TECNOLOGIA COMPOSIZIONE	TEMPERATURA OSSIDAZIONE	DUREZZA	SPESSORE	P	M	K	N	S	H	CARATTERISTICHE
ALOX	PVD TiAlN	1000 °C	3500 HV	8÷10 µm	☆		★				Rivestimento PVD ad alto spessore. Prima scelta per lavorazione di ghisa e indicato per lavorazioni gravose su acciaio.
ALUSPEED	PVD TiB2	900 °C	4000 HV	2÷3 µm				★			La superficie estremamente liscia migliora lo scorrimento del truciolo. Ideale per lavorazione di materiali non ferrosi.
CARBOSPEED	PVD TiAlCrN	1100 °C	3500 HV	3 µm	★						Rivestimento nanocomposito di nuova generazione, prima scelta per lavorazioni di acciai al carbonio e acciai legati.
CASTSPEED	MT-CVD TiN+TiCN+Al2O3	>1000 °C	2700 HV	8 µm			★				Rivestimento CVD dall'eccezionale resistenza all'abrasione, indicato per lavorazione di ghisa ad elevate velocità di taglio.
HARDLOX2	PVD AlTixN	1100 °C	3800 HV	3 µm						★	Speciale struttura cristallina e particolare trattamento di spazzolatura post-deposizione. Ideato per materiali temprati fino a 60 HRC.
HARDSPEED	PVD AlTixN	1100 °C	3800 HV	3 µm						★	Rivestimento con struttura microcristallina per lavorazione di materiali temprati fino a 50 HRC.
HYPERSPEED	PVD AlTiN	1100 °C	3700 HV	3 µm		☆			★		Rivestimento a struttura ultra fine con elevata durezza e temperatura di ossidazione. Raccomandato per leghe resistenti al calore.
NANOSPEED	PVD TiAlN+TiN	1000 °C	3500 HV	2÷4 µm	☆	★			☆		Superficie liscia e basso coefficiente di attrito, ottime prestazioni su acciaio inossidabile e buona versatilità per uso generico.
NIROSPEED	PVD AlTiN	1100 °C	3100 HV	3 µm		★			☆		Rivestimento PVD raccomandato per acciaio inossidabile e leghe resistenti al calore.
TILOX	PVD TiAlN	1000 °C	3500 HV	2÷4 µm	★	☆	☆				L'ottima combinazione tra durezza e tenacità rende questo rivestimento molto versatile e applicabile su acciaio, acciaio inossidabile e ghisa.

◯ lavorazione stabile ◯ uso generico ◯ condizioni difficili

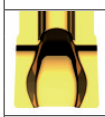
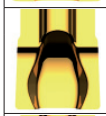
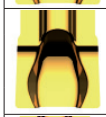
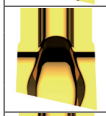
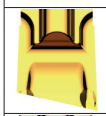
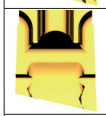
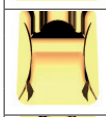
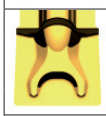
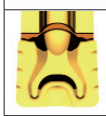
★ prima scelta - ☆ seconda scelta

SELEZIONE DI BASE DELL'INSERTO — Sistema P92

MATERIALE		INSERTO		Troncatura	Scanalatura	Tornitura	Profilatura
P	○	**GEOMETRIA**		**BTNN - SCTD**	**MTNS**	**MTNZ - MTNS**	**RTNX**
		GRADO	Substrato	GF110 - KM	GF110 - KM	GF110 - KM	KM
			Rivestimento	CARBOSPEED - TILOX	CARBOSPEED - TILOX	CARBOSPEED - TILOX	TILOX
	◯	**GEOMETRIA**		**BTNN - SCTD**	**MTNS**	**MTNZ - MTNS**	**RTNX**
		GRADO	Substrato	KM - PM	KM - PM	KM - PM	KM
			Rivestimento	CARBOSPEED - TILOX	CARBOSPEED - TILOX	CARBOSPEED - TILOX	TILOX
	◯	**GEOMETRIA**		**CTD - BTNN**	**MTNS - CTD**	**MTNZ - MTNS**	**RTNX**
		GRADO	Substrato	PM - KM	PM - KM	PM - KM	KM
			Rivestimento	CARBOSPEED - TILOX	CARBOSPEED - TILOX	CARBOSPEED - TILOX	TILOX
M	○	**GEOMETRIA**		**SCTD - BTNN**	**MTNS - MTNSG**	**MTNZ - MTNSG**	**RTNX - RTNG**
		GRADO	Substrato	GF110 - KM	GF110 - KM	KM	KM - GF110
			Rivestimento	NANOSPEED - NIROSPEED	NANOSPEED - TILOX	NANOSPEED - TILOX	NANOSPEED - TILOX
	◯	**GEOMETRIA**		**SCTD - BTNN**	**MTNS - MTNSG**	**MTNZ - MTNSG**	**RTNX - RTNG**
		GRADO	Substrato	KM - PM	KM - PM	KM - PM	KM - GF110
			Rivestimento	NANOSPEED	NANOSPEED - TILOX	NANOSPEED - TILOX	NANOSPEED - TILOX
	◯	**GEOMETRIA**		**BTNN - CTD**	**MTNS**	**MTNZ**	**RTNX**
		GRADO	Substrato	PM	PM	PM	KM
			Rivestimento	NANOSPEED	NANOSPEED	NANOSPEED	TILOX
K	○	**GEOMETRIA**		**CTD**	**MTNS - OTX PCBN**	**MTNS - OTXC**	**RTNX**
		GRADO	Substrato	KM	GF110 - CBN1630GL	GF110 - KM	KM
			Rivestimento	TILOX	ALOX - non rivestito	ALOX - CASTSPEED	TILOX
	◯	**GEOMETRIA**		**CTD**	**MTNS - OTXC**	**MTNS - OTXC**	**RTNX**
		GRADO	Substrato	KM	GF110 - KM	GF110 - KM	KM
			Rivestimento	TILOX	ALOX - CASTSPEED	ALOX - CASTSPEED	TILOX
	◯	**GEOMETRIA**		**CTD**	**MTNS - OTXC**	**MTNS - OTXC**	**RTNX**
		GRADO	Substrato	KM	PM - KM	PM - KM	KM
			Rivestimento	TILOX	ALOX - CASTSPEED	ALOX - CASTSPEED	TILOX
N	○	**GEOMETRIA**		**CTD ALU**	**CTD ALU**	**BTNG - MTNSG**	**RTNG**
		GRADO	Substrato	KM	KM	GF110 - KM	GF110
			Rivestimento	ALUSPEED - non rivestito	ALUSPEED - non rivestito	non rivestito - TILOX	non rivestito
	◯	**GEOMETRIA**		**CTD ALU**	**CTD ALU**	**BTNG - MTNSG**	**RTNG**
		GRADO	Substrato	KM	KM	GF110 - KM	GF110
			Rivestimento	ALUSPEED - non rivestito	ALUSPEED - non rivestito	non rivestito - TILOX	non rivestito
	◯	**GEOMETRIA**		**CTD ALU**	**CTD ALU**	**MTNSG**	**RTNG**
		GRADO	Substrato	KM	KM	KM	GF110
			Rivestimento	non rivestito	non rivestito	TILOX	non rivestito
S	○	**GEOMETRIA**		**BTNN**	**MTNSG**	**BTNG - MTNSG**	**RTNG**
		GRADO	Substrato	GF110	KM	GF110 - KM	GF110
			Rivestimento	HYPERSPEED - NIROSPEED	TILOX	NANOSPEED - TILOX	NANOSPEED
	◯	**GEOMETRIA**		**BTNN**	**MTNSG**	**BTNG - MTNSG**	**RTNG**
		GRADO	Substrato	GF110	KM	GF110 - KM	GF110
			Rivestimento	HYPERSPEED - NIROSPEED	TILOX	NANOSPEED - TILOX	NANOSPEED
H	○	**GEOMETRIA**		**BTNN**	**MTNS - OTX PCBN**	**MTNS**	**RTNG**
		GRADO	Substrato	GF110 - KM	GF110 - CBN5625GL	GF110	GF110
			Rivestimento	HARDSPEED - HARDLOX2	HARDLOX2 - non rivestito	HARDLOX2	HARDLOX2
	◯	**GEOMETRIA**		**BTNN**	**MTNS**	**MTNS**	**RTNG**
		GRADO	Substrato	GF110 - KM	GF110	GF110	GF110
			Rivestimento	HARDSPEED - HARDLOX2	HARDLOX2	HARDLOX2	HARDLOX2

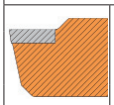
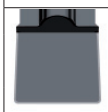
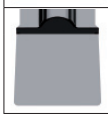
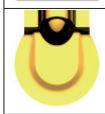
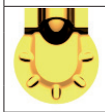
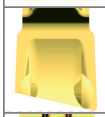
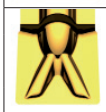
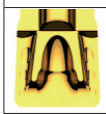
○ lavorazione stabile ◯ uso generico ◯ condizioni difficili

Sistema P92 — GAMMA E CARATTERISTICHE DEGLI INSERTI

	DESCRIZIONE	Troncatura	Scanalatura	Tornitura	Profilatura	LARGHEZZA INSERTO 1.5	2	2.5	3	3.5	4	5	6	6.5	8	10	ISO 513 P	M	K	N	S	H	Pag.
	**A BTNN** elevate profondità di taglio monotagliente	★							■		■						★	★	☆				67
	**BTNG** materiali di difficile lavorabilità inserto rettificato			★			■	■	■		■	■	■		■	■	☆	☆		★	★	☆	78
	**BTNN** impiego universale	★				■	■	■	■		■						★	★			★	★	68
	**BTNNF** lavorazione di minuterie	★				■	■	■	■								★	★					70
	**BTN^{R}/$_{L}$** impiego universale taglienti angolati (6°,7°,10°,16°)	★				■	■	■	■		■						★	★			☆	★	69
	**BTN^{R}/$_{L}$F** lavorazione di minuterie taglienti angolati (6° e 10°)	★				■	■	■	■								★	★					71
	**BTNX** spoglia positiva ridotti sforzi di laglio			★			■	■	■		■	■					★	★					79
	**CTD** elevati avanzamenti taglio interrotto	★	☆			■	■	■	■		■	■					★		★				72
	**CTD ALU** materiali non ferrosi spessori ridotti	★	☆			■	■	■	■		■	■					☆	☆		★		☆	74
	**CTDS** super-finitura (tornitura) tagliente secondario rettificato		☆	★					■		■	■					★	★	☆				80
	**CT^{R}/$_{L}$** elevati avanzamenti taglio interrotto taglienti angolati (6°)	★				■	■	■	■		■	■					★		☆				73
	**CT^{R}/$_{L}$ ALU** materiali non ferrosi spessori ridotti taglienti angolati (6°)	★							■		■	■					☆	☆		★			75
	**KCTD** tagliente rinforzato lavorazioni interne monotagliente		★						■								★	☆	☆	☆		★	81
	**KCTDS** super-finitura (tornitura) lavorazioni interne monotagliente		☆	★					■								★	★	☆	☆		★	81
	**MTNS** impiego universale		★	★			■	■	■		■	■	■		■	■	★	★	★			★	82
	**MTNSG** acciaio inossidabile alluminio e titanio inserto rettificato e lucidato		★	★			■	■	■		■	■	■		■	■	☆	★		★	☆		83
	**MTNZ** ottimo controllo truciolo tagliente secondario ondulato			★					■	■	■	■	■		■		★	★					84

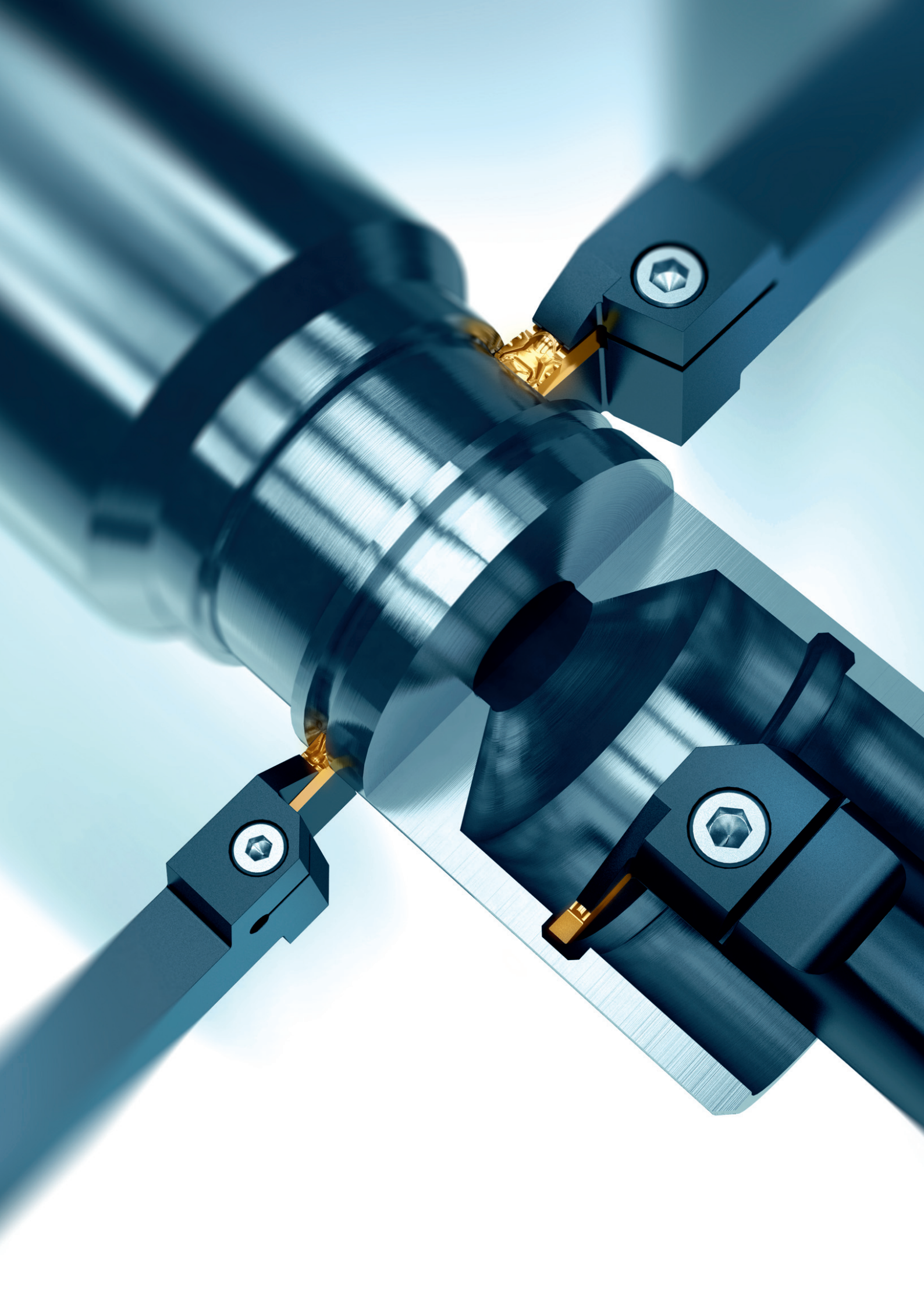
★ prima scelta - ☆ seconda scelta

GAMMA E CARATTERISTICHE DEGLI INSERTI — Sistema P92

	DESCRIZIONE	Troncatura	Scanalatura	Tornitura	Profilatura	LARGHEZZA INSERTO 1.5	2	2.5	3	3.5	4	5	6	6.5	8	10	ISO 513 P	M	K	N	S	H	Pag.
	**OTX PCBN** materiali temprati e ghisa		★						■		■	■	■						★			★	**85**
	**OTXC** lavorazione di ghisa		★	☆					■		■	■	■		■				★				**86**
	**OTXS** base per soluzioni speciali		☆						■		■	■		■	■	■							**87**
	**RTNG** materiali di difficile lavorabilità inserto rettificato				★		R1		R1.5		R2	R2.5	R3		R4	R5	☆	★		★	★	★	**91**
	**RTNX** impiego universale				★		R1		R1.5		R2	R2.5	R3		R4	R5	★	★	★				**92**
	**SCTD** acciai automatici e inossidabili	★	☆			■	■	■	■		■	■					★	★			☆	☆	**76**
	**SCT$^{R}/_{L}$** acciai automatici e inossidabili taglienti angolati	★				■	■	■	■								★	★			☆		**77**
	**STNG** materiali non ferrosi tagliente vivo superficie lucidata			★								■								★	★		**88**
	**STNZ** materiali non ferrosi tagliente arrotondato superficie lucidata			★								■								★	★		**88**
	**VTNS** rompitruciolo ampio lavorazioni profonde e frontali		☆	☆					■	■	■	■	■				★	★	★				**89**
	**XTNS** impiego universale taglio dolce		★	☆			■		■		■	■	■		■	■	★	★					**90**

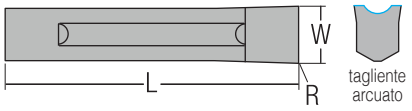
★ prima scelta - ☆ seconda scelta

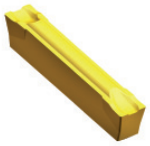
GAMMA E CARATTERISTICHE DEGLI UTENSILI p. 93



A BTNN
elevate profondità di taglio

monotagliente





ISO 513	KM	PM
	TILOX rivestimento PVD	NANOSPEED rivestimento PVD
P	★	☆
M	☆	★
K	☆	
N		
S		
H		

S	DESCRIZIONE	W	R	L	α	STOCK		
30	**A BTNN 3**	$3.05^{\pm 0.10}$	0.2	20.10	-	○	○	
40	**A BTNN 4**	$4.05^{\pm 0.10}$	0.2	20.10	-	○	○	

Velocità di taglio Vc [m/min]				
ACCIAI	P	★ 70÷200	☆ 60÷180	
ACCIAI INOSSIDABILI	M	☆ 50÷160	★ 40÷140	
GHISE	K	☆ 80÷220		

◯ lavorazione stabile ◯ uso generico ◯ condizioni difficili

★ prima scelta - ☆ seconda scelta

		Raggio inserto	Larghezza inserto W	
			3	4
Troncatura	Avanzamento fn [mm/giro]	R 0.2	0.05÷0.16	0.06÷0.18

M considerare dal valore minimo al valore medio

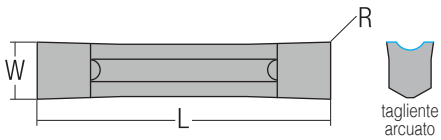
P K considerare dal valore medio al valore massimo

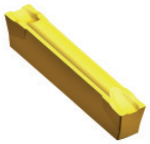
UTENSILI p. 93

MATERIALI P M K N S H p. 263

DATI TECNICI p. 241

BTNN
impiego universale





ISO 513	GF110					KM				PM	
	CARBOSPEED rivestimento PVD	NANOSPEED rivestimento PVD	NIROSPEED rivestimento PVD	HYPERSPEED rivestimento PVD	HARDSPEED rivestimento PVD	TILOX rivestimento PVD	CARBOSPEED rivestimento PVD	NANOSPEED rivestimento PVD	HARDLOX2 rivestimento PVD	TILOX rivestimento PVD	NANOSPEED rivestimento PVD
P	★	☆				★	★	☆		★	☆
M		★	★	☆		☆		★		☆	★
K						☆					
N											
S		☆	☆	★				☆			
H					★				★		

S	DESCRIZIONE	W	R	L	α	STOCK					STOCK				STOCK	
15	BTNN 1.5	$1.58^{\pm 0.10}$	0.2	15.50	-	●	○	○	○	○	●	●		○		●
20÷25	BTNN 2	$2.08^{\pm 0.10}$	0.2	20.02	-	●	●	●	●	●	●	●	○	○		●
20÷25	BTNN 2.5	$2.58^{\pm 0.10}$	0.2	20.03	-	○	○	○	○	○	●	●	○	○		●
30	BTNN 3	$3.08^{\pm 0.10}$	0.2	20.10	-	●	●	●	●	●	●	●		○	●	●
40	BTNN 4	$4.08^{\pm 0.10}$	0.2	20.10	-	●	○	○	○	○	●	●		○	●	●

Velocità di taglio Vc [m/min]

		GF110					KM				PM	
ACCIAI	P	★ 80÷220	☆ 80÷220				★ 70÷200	★ 70÷200	☆ 70÷200		★ 60÷180	☆ 60÷180
ACCIAI INOSSIDABILI	M		★ 60÷180	★ 60÷180	☆ 60÷180		☆ 50÷160		★ 50÷160		☆ 40÷140	★ 40÷140
GHISE	K						☆ 80÷220					
LEGHE RESISTENTI AL CALORE	S		☆ 40÷100	☆ 40÷100	★ 40÷100				☆ 30÷80			
MATERIALI TEMPRATI	H					★ 30÷60				★ 20÷50		

◯ lavorazione stabile ◯ uso generico ◯ condizioni difficili

★ prima scelta - ☆ seconda scelta

	Raggio inserto	Larghezza inserto W 1.5	2	2.5	3	4
Avanzamento fn [mm/giro]	R 0.2	0.03÷0.12	0.04÷0.14	0.04÷0.15	0.05÷0.16	0.06÷0.18

M S H considerare dal valore minimo al valore medio

P K considerare dal valore medio al valore massimo

UTENSILI p. 93

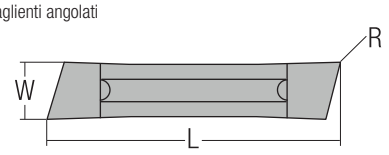
MATERIALI P M K N S H p. 263

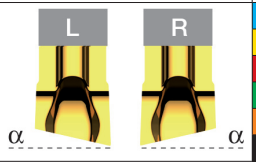
DATI TECNICI p. 241

TRONCATURA — Sistema P92 - Inserti

BTN$^{R}/_{L}$
impiego universale

taglienti angolati





		GF110				KM			PM			
ISO 513		CARBOSPEED rivestimento PVD	NANOSPEED rivestimento PVD	NIROSPEED rivestimento PVD	HARDSPEED rivestimento PVD	TILOX rivestimento PVD	CARBOSPEED rivestimento PVD	NANOSPEED rivestimento PVD	NANOSPEED rivestimento PVD			
P		★	☆			★	★	☆	☆			
M			★	★		☆		★	★			
K						☆						
N												
S			☆	☆				☆				
H					★							

S	DESCRIZIONE	W	R	L	α	STOCK GF110 R	GF110 L	R	L	R	L	STOCK KM R	KM L	R	L	R	STOCK PM L			
15	BTN$^{R}/_{L}$ 1.5 6D	1.58$^{\pm0.10}$	0.2	15.50	6°							●	●	○	○		●	●		
	1.5 7D	1.58$^{\pm0.10}$	0.2	15.50	7°	●	●	○	○	○	○	○	○							
	1.5 10D	1.58$^{\pm0.10}$	0.2	15.50	10°							●	●	○	○		●	●		
	1.5 16D	1.58$^{\pm0.10}$	0.2	15.50	16°							●	●	○	○		●	●		
20÷25	BTN$^{R}/_{L}$ 2 6D	2.08$^{\pm0.10}$	0.2	20.02	6°							●	●	○	○	○	○	●	●	
	2 7D	2.08$^{\pm0.10}$	0.2	20.02	7°	●	●	○	○	○	○	○	○							
	2 10D	2.08$^{\pm0.10}$	0.2	20.02	10°							●	●	○	○	○	○	●	●	
	BTN$^{R}/_{L}$ 2.5 6D	2.58$^{\pm0.10}$	0.2	20.03	6°							○	○	○	○	○	○	○	○	
	2.5 7D	2.58$^{\pm0.10}$	0.2	20.03	7°	○	○	○	○	○	○	○	○							
	2.5 10D	2.58$^{\pm0.10}$	0.2	20.03	10°							○	○	○	○	○	○	○	○	
30	BTN$^{R}/_{L}$ 3 6D	3.08$^{\pm0.10}$	0.2	20.10	6°							●	●	○	○		●	●		
	3 7D	3.08$^{\pm0.10}$	0.2	20.10	7°	●	●	○	○	○	○	○	○							
	3 10D	3.08$^{\pm0.10}$	0.2	20.10	10°							●	●	○	○		●	●		
40	BTN$^{R}/_{L}$ 4 6D	4.08$^{\pm0.10}$	0.2	20.10	6°							●	●	○	○		●	●		
	4 7D	4.08$^{\pm0.10}$	0.2	20.10	7°	●	●	○	○	○	○	○	○							
	4 10D	4.08$^{\pm0.10}$	0.2	20.10	10°							○	○	○	○		○	○		

Velocità di taglio Vc [m/min]		GF110				KM			PM			
ACCIAI	P	★ 80÷220	☆ 80÷220			★ 70÷200	★ 70÷200	☆ 70÷200	☆ 60÷180			
ACCIAI INOSSIDABILI	M		★ 60÷180	★ 60÷180		☆ 50÷160		★ 50÷160	★ 40÷140			
GHISE	K					☆ 80÷220						
LEGHE RESISTENTI AL CALORE	S		☆ 40÷100	☆ 40÷100				☆ 30÷80				
MATERIALI TEMPRATI	H				★ 30÷60							

◯ lavorazione stabile ◯ uso generico ⬡ condizioni difficili

★ prima scelta - ☆ seconda scelta

		Raggio inserto	Larghezza inserto W 1.5	2	2.5	3	4
Troncatura	Avanzamento fn [mm/giro]	R 0.2	0.02÷0.08	0.03÷0.10	0.03÷0.11	0.04÷0.12	0.04÷0.13

M S H considerare dal valore minimo al valore medio

P K considerare dal valore medio al valore massimo

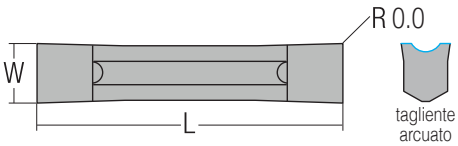
UTENSILI p. 93

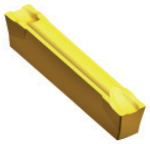
MATERIALI p. 263

DATI TECNICI p. 241

BTNNF
lavorazione di minuterie

spigolo vivo





ISO 513	GF110		PM
	CARBOSPEED rivestimento PVD	NANOSPEED rivestimento PVD	NANOSPEED rivestimento PVD
P	★	☆	☆
M		★	★
K			
N			
S		☆	
H			

S	DESCRIZIONE	W	R	L	α	STOCK		STOCK
15	BTNNF 1.5	1.58$^{\pm 0.10}$	0.0	15.10	-	○	○	●
20÷25	BTNNF 2	2.08$^{\pm 0.10}$	0.0	19.60	-	○	○	●
20÷25	BTNNF 2.5	2.58$^{\pm 0.10}$	0.0	19.60	-	○	○	●
30	BTNNF 3	3.08$^{\pm 0.10}$	0.0	19.60	-	○	○	●

Velocità di taglio Vc [m/min]					
ACCIAI	P	★ 80÷220	☆ 80÷220	☆ 60÷180	
ACCIAI INOSSIDABILI	M		★ 60÷180	★ 40÷140	
LEGHE RESISTENTI AL CALORE	S		☆ 40÷100		

◯ lavorazione stabile ◯ uso generico ⬡ condizioni difficili

★ prima scelta - ☆ seconda scelta

		Raggio inserto	Larghezza inserto W			
			1.5	2	2.5	3
Troncatura	Avanzamento fn [mm/giro]	R 0.0	0.02÷0.07	0.02÷0.08	0.02÷0.09	0.03÷0.10

M S considerare dal valore minimo al valore medio

P considerare dal valore medio al valore massimo

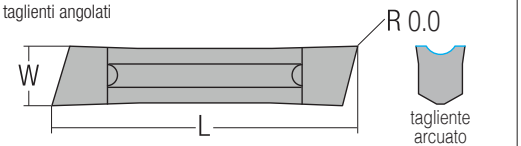
UTENSILI p. 93

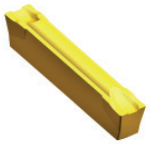
MATERIALI P M K N S H p. 263

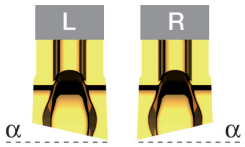
DATI TECNICI p. 241

BTN^{R}/$_{L}$F
lavorazione di minuterie

spigolo vivo
taglienti angolati







ISO 513	GF110		PM
	CARBOSPEED rivestimento PVD	NANOSPEED rivestimento PVD	NANOSPEED rivestimento PVD
P	★	☆	☆
M		★	★
K			
N			
S		☆	
H			

S	DESCRIZIONE	W	R	L	α	STOCK GF110 R	STOCK GF110 L	STOCK GF110 R	STOCK GF110 L	STOCK PM R	STOCK PM L
15	BTN^{R}/$_{L}$F 1.5 6D	1.58$^{\pm 0.10}$	0.0	15.10	6°	○	○	●	○	○	○
	1.5 10D	1.58$^{\pm 0.10}$	0.0	15.10	10°	○	○	○	○	●	●
20÷25	BTN^{R}/$_{L}$F 2 6D	2.08$^{\pm 0.10}$	0.0	19.60	6°	○	○	○	○	○	○
	2 10D	2.08$^{\pm 0.10}$	0.0	19.60	10°	○	○	○	○	●	●
	BTN^{R}/$_{L}$F 2.5 6D	2.58$^{\pm 0.10}$	0.0	19.60	6°	○	○	○	○	○	○
	2.5 10D	2.58$^{\pm 0.10}$	0.0	19.60	10°	○	○	○	○	●	●
30	BTN^{R}/$_{L}$F 3 6D	3.08$^{\pm 0.10}$	0.0	19.60	6°	○	○	○	○	○	○
	3 10D	3.08$^{\pm 0.10}$	0.0	19.60	10°	○	○	○	○	●	●

Velocità di taglio Vc [m/min]			GF110	PM
	ACCIAI	P	★ 80÷220	☆ 80÷220	☆ 60÷180
	ACCIAI INOSSIDABILI	M	★ 60÷180	★ 40÷140
	LEGHE RESISTENTI AL CALORE	S	☆ 40÷100	

◯ lavorazione stabile ◯ uso generico ◯ condizioni difficili

★ prima scelta - ☆ seconda scelta

Troncatura		Raggio inserto	Larghezza inserto W 1.5	2	2.5	3
	Avanzamento fn [mm/giro]	R 0.0	0.01÷0.05	0.01÷0.06	0.01÷0.06	0.02÷0.07

M S considerare dal valore minimo al valore medio

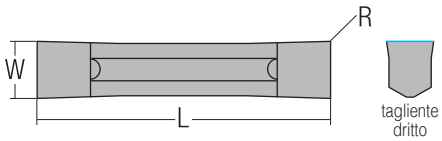
P considerare dal valore medio al valore massimo

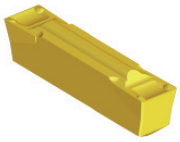
UTENSILI p. 93

MATERIALI p. 263

DATI TECNICI p. 241

CTD
elevati avanzamenti e taglio interrotto





						ISO 513	GF110		KM		PM						
							CARBOSPEED rivestimento PVD	NANOSPEED rivestimento PVD	TILOX rivestimento PVD	CARBOSPEED rivestimento PVD	TILOX rivestimento PVD	CARBOSPEED rivestimento PVD	NANOSPEED rivestimento PVD				
						P	★	☆	★	★	★	★	☆				
						M		★	☆		☆		★				
						K			☆								
						N											
						S		☆									
						H											
S	DESCRIZIONE		W	R	L	α	STOCK		STOCK		STOCK						
15	CTD	1.5	$1.58^{\pm 0.10}$	0.15	16.00	-	○	○			○	○	○				
20-25	CTD	2	$2.08^{\pm 0.10}$	0.2	20.00	-	●	●			●	○	●				
20-25	CTD	2.5	$2.58^{\pm 0.10}$	0.2	20.00	-	○	○			○	○	○				
30	CTD	3	$3.08^{\pm 0.10}$	0.2	20.00	-	●	●	●	○	●	○	●				
40	CTD	4	$4.08^{\pm 0.10}$	0.2	20.00	-	●	●	●	○	●	○	●				
50	CTD	5	$5.13^{\pm 0.10}$	0.2	25.00	-	●	●	●	○	●	○	●				

Velocità di taglio Vc [m/min]													
ACCIAI	P	★ 80÷220	☆ 80÷220	★ 70÷200	★ 70÷200	★ 60÷180	★ 60÷180	☆ 60÷180					
ACCIAI INOSSIDABILI	M		★ 60÷180	☆ 50÷160		☆ 40÷140		★ 40÷140					
GHISE	K			☆ 80÷220									
LEGHE RESISTENTI AL CALORE	S		☆ 40÷100										

◯ lavorazione stabile ◯ uso generico ◯ condizioni difficili

★ prima scelta - ☆ seconda scelta

		Raggio inserto	Larghezza inserto W					
			1.5	2	2.5	3	4	5
Troncatura	Avanzamento fn [mm/giro]	R 0.15	0.04÷0.14	-	-	-	-	-
		R 0.2	-	0.05÷0.18	0.08÷0.20	0.10÷0.25	0.10÷0.28	0.12÷0.32

M S considerare dal valore minimo al valore medio

P K considerare dal valore medio al valore massimo

UTENSILI p. 93

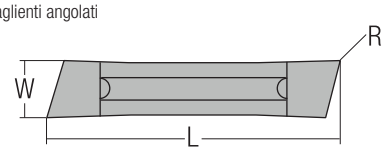
MATERIALI P M K N S H p. 263

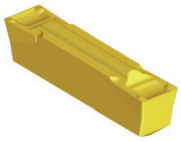
DATI TECNICI p. 241

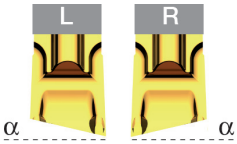
CT$^{R}/_{L}$

elevati avanzamenti e taglio interrotto

taglienti angolati







S	DESCRIZIONE	W	R	L	α	ISO 513	GF110 CARBOSPEED rivestimento PVD STOCK R	GF110 CARBOSPEED rivestimento PVD STOCK L	GF110 NANOSPEED rivestimento PVD STOCK R	GF110 NANOSPEED rivestimento PVD STOCK L	KM TILOX rivestimento PVD STOCK R	KM TILOX rivestimento PVD STOCK L	PM TILOX rivestimento PVD STOCK R	PM TILOX rivestimento PVD STOCK L	PM CARBOSPEED rivestimento PVD STOCK R	PM CARBOSPEED rivestimento PVD STOCK L	PM NANOSPEED rivestimento PVD STOCK R	PM NANOSPEED rivestimento PVD STOCK L
						P	★		☆		★		★		★		☆	
						M			★		☆		☆				★	
						K					☆							
						N												
						S			☆									
						H												
15	CT$^{R}/_{L}$ **1.5 6D**	1.58$^{\pm0.10}$	0.15	16.00	6°		○	○	○	○			○	○	○	○	○	○
20÷25	CT$^{R}/_{L}$ **2 6D**	2.08$^{\pm0.10}$	0.2	20.00	6°		○	○	○	○			○	○	○	○	○	○
20÷25	CT$^{R}/_{L}$ **2.5 6D**	2.58$^{\pm0.10}$	0.2	20.00	6°		○	○	○	○			○	○	○	○	○	○
30	CT$^{R}/_{L}$ **3 6D**	3.08$^{\pm0.10}$	0.2	20.00	6°		○	○	○	○	●	●	○	○	○	○	●	●
40	CT$^{R}/_{L}$ **4 6D**	4.08$^{\pm0.10}$	0.2	20.00	6°		○	○	○	○	○	○	○	○	○	○	○	○
50	CT$^{R}/_{L}$ **5 6D**	5.13$^{\pm0.10}$	0.2	25.00	6°		○	○	○	○	○	○	○	○	○	○	○	○

Velocità di taglio Vc [m/min]			GF110 CARBOSPEED rivestimento PVD	GF110 NANOSPEED rivestimento PVD	KM TILOX rivestimento PVD	PM TILOX rivestimento PVD	PM CARBOSPEED rivestimento PVD	PM NANOSPEED rivestimento PVD
	ACCIAI	P	★ 80÷220	☆ 80÷220	★ 70÷200	★ 60÷180	★ 60÷180	☆ 60÷180
	ACCIAI INOSSIDABILI	M		★ 60÷180	☆ 50÷160	☆ 40÷140		★ 40÷140
	GHISE	K			☆ 80÷220			
	LEGHE RESISTENTI AL CALORE	S		☆ 40÷100				

◯ lavorazione stabile ◯ uso generico condizioni difficili

★ prima scelta - ☆ seconda scelta

		Raggio inserto	Larghezza inserto W 1.5	2	2.5	3	4	5
Troncatura	Avanzamento fn [mm/giro]	R 0.15	0.03÷0.10	-	-	-	-	-
		R 0.2	-	0.04÷0.13	0.06÷0.14	0.07÷0.18	0.07÷0.20	0.08÷0.22

M S considerare dal valore minimo al valore medio

P K considerare dal valore medio al valore massimo

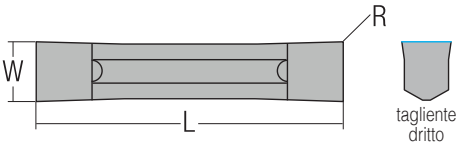
UTENSILI p. 93

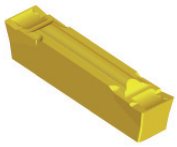
MATERIALI P M K N S H p. 263

DATI TECNICI p. 241

CTD ALU

materiali non ferrosi
spessori ridotti





ISO 513	GF110			KM			PM					
	Non rivestito	ALUSPEED rivestimento PVD	HARDLOX2 rivestimento PVD	Non rivestito	ALUSPEED rivestimento PVD	HARDLOX2 rivestimento PVD	NANOSPEED rivestimento PVD					
P							★					
M							★					
K												
N	☆	★		☆	★							
S												
H			★			★						

S	DESCRIZIONE	W	R	L	α	STOCK			STOCK			STOCK				
15	CTD 1.5 ALU	1.58$^{\pm 0.10}$	0.2	16.00	-	●	●	○				○				
20÷25	CTD 2 ALU	2.08$^{\pm 0.10}$	0.2	20.00	-	●	●	○				○				
	CTD 2.5 ALU	2.58$^{\pm 0.10}$	0.2	20.00	-	●	●	○				○				
30	CTD 3 ALU	3.08$^{\pm 0.10}$	0.2	20.00	-				●	●	○	○				
40	CTD 4 ALU	4.08$^{\pm 0.10}$	0.2	20.00	-				●	●	○	○				
50	CTD 5 ALU	5.13$^{\pm 0.10}$	0.2	25.00	-				●	●	○	○				

Velocità di taglio Vc [m/min]											
ACCIAI	P							★ 60÷180				
ACCIAI INOSSIDABILI	M							★ 40÷140				
MATERIALI NON FERROSI	N	☆ 200÷500	★ 200÷600		☆ 200÷500	★ 200÷600						
MATERIALI TEMPRATI	H			★ 30÷80			★ 20÷50					

◯ lavorazione stabile ◯ uso generico ◯ condizioni difficili

★ prima scelta - ☆ seconda scelta

Troncatura		Raggio inserto	Larghezza inserto W					
			1.5	2	2.5	3	4	5
	Avanzamento fn [mm/giro]	R 0.2	0.03÷0.12	0.04÷0.14	0.04÷0.15	0.05÷0.16	0.06÷0.18	0.08÷0.20

M H considerare dal valore minimo al valore medio

P N considerare dal valore medio al valore massimo

UTENSILI p. 93

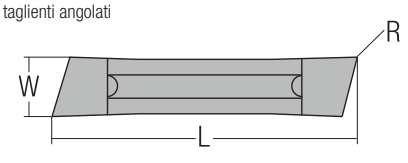
MATERIALI P M K N S H p. 263

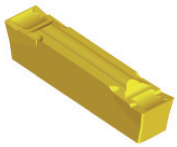
DATI TECNICI p. 241

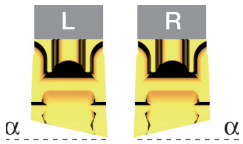
CT^{R}/$_{L}$ ALU

materiali non ferrosi
spessori ridotti

taglienti angolati







ISO 513	KM		PM
	Non rivestito	ALUSPEED rivestimento PVD	NANOSPEED rivestimento PVD
P			★
M			★
K			
N	☆	★	
S			
H			

S	DESCRIZIONE	W	R	L	α	STOCK R	STOCK L	R	L	R	L
30	CT^{R}/$_{L}$ **3 6D ALU**	3.08$^{\pm 0.10}$	0.2	20.00	6°	○	○	○	○	○	○
40	CT^{R}/$_{L}$ **4 6D ALU**	4.08$^{\pm 0.10}$	0.2	20.00	6°	○	○	○	○	○	○
50	CT^{R}/$_{L}$ **5 6D ALU**	5.13$^{\pm 0.10}$	0.2	25.00	6°	○	○	○	○	○	○

Velocità di taglio Vc [m/min]				
ACCIAI	P			★ 60÷180
ACCIAI INOSSIDABILI	M			★ 40÷140
MATERIALI NON FERROSI	N	☆ 200÷500	★ 200÷600	

◯ lavorazione stabile ◯ uso generico ◯ condizioni difficili

★ prima scelta - ☆ seconda scelta

		Raggio inserto	Larghezza inserto W		
			3	4	5
Troncatura	Avanzamento fn [mm/giro]	R 0.2	0.04÷0.11	0.04÷0.13	0.06÷0.14

M considerare dal valore minimo al valore medio

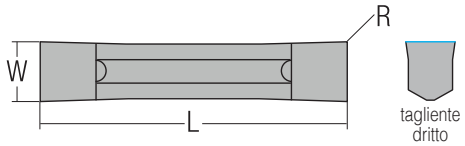
P N considerare dal valore medio al valore massimo

UTENSILI p. 93

MATERIALI p. 263

DATI TECNICI p. 241

SCTD
acciai automatici e inossidabili



ISO 513	GF110			KM		PM					
	CARBOSPEED rivestimento PVD	NANOSPEED rivestimento PVD	HARDLOX2 rivestimento PVD	CARBOSPEED rivestimento PVD	NANOSPEED rivestimento PVD	CARBOSPEED rivestimento PVD	NANOSPEED rivestimento PVD				
P	★	☆		★	☆	★	☆				
M		★			★		★				
K											
N											
S		☆			☆						
H			★								

S	DESCRIZIONE	W	R	L	α	STOCK			STOCK		STOCK					
15	SCTD 1.5	1.58$^{\pm 0.10}$	0.2	16.00	-	●	●	○			●	●				
20-25	SCTD 2	2.08$^{\pm 0.10}$	0.2	20.00	-	●	●	○			●	●				
20-25	SCTD 2.5	2.58$^{\pm 0.10}$	0.2	20.00	-	●	●	○			●	●				
30	SCTD 3	3.08$^{\pm 0.10}$	0.2	20.00	-			○	●	●	●	●				
40	SCTD 4	4.08$^{\pm 0.10}$	0.2	20.00	-			○	●	●	●	●				
50	SCTD 5	5.13$^{\pm 0.10}$	0.2	25.00	-			○	●	●	●	●				

Velocità di taglio Vc [m/min]											
ACCIAI	P	★ 80÷220	☆ 80÷220		★ 70÷200	☆ 70÷200	★ 60÷180	☆ 60÷180				
ACCIAI INOSSIDABILI	M		★ 60÷180			★ 50÷160		★ 40÷140				
LEGHE RESISTENTI AL CALORE	S		☆ 40÷100			☆ 30÷80						
MATERIALI TEMPRATI	H			★ 30÷60								

◯ lavorazione stabile ◯ uso generico ◯ condizioni difficili

★ prima scelta - ☆ seconda scelta

		Raggio inserto	Larghezza inserto W					
			1.5	2	2.5	3	4	5
Troncatura	Avanzamento fn [mm/giro]	R 0.2	0.03÷0.13	0.04÷0.16	0.06÷0.17	0.07÷0.18	0.08÷0.22	0.10÷0.25

M S H considerare dal valore minimo al valore medio

P considerare dal valore medio al valore massimo

UTENSILI p. 93

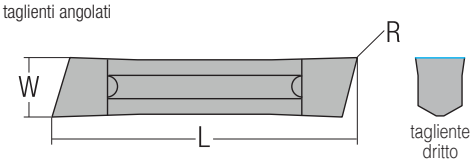
MATERIALI P M K N S H p. 263

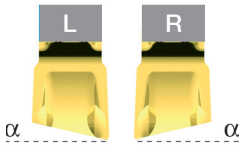
DATI TECNICI p. 241

SCT$^{R}/_{L}$

acciai automatici e inossidabili

taglienti angolati





ISO 513	GF110		KM		PM							
	CARBOSPEED rivestimento PVD	NANOSPEED rivestimento PVD	CARBOSPEED rivestimento PVD	NANOSPEED rivestimento PVD	CARBOSPEED rivestimento PVD	NANOSPEED rivestimento PVD						
P	★	☆	★	☆	★	☆						
M		★		★		★						
K												
N												
S		☆		☆								
H												

S	DESCRIZIONE	W	R	L	α	STOCK GF110 R	STOCK GF110 L	STOCK GF110 R	STOCK GF110 L	STOCK KM R	STOCK KM L	STOCK KM R	STOCK KM L	STOCK PM R	STOCK PM L	STOCK PM R	STOCK PM L
15	SCT$^{R}/_{L}$ 1.5 6D	1.58$^{\pm 0.10}$	0.2	16.00	6°	●	●	○	○					○	○	●	●
20÷25	SCT$^{R}/_{L}$ 2 6D	2.08$^{\pm 0.10}$	0.2	20.00	6°	●	●	○	○					○	○	●	●
20÷25	SCT$^{R}/_{L}$ 2.5 6D	2.58$^{\pm 0.10}$	0.2	20.00	6°	●	●	○	○					○	○	●	●
30	SCT$^{R}/_{L}$ 3 6D	3.08$^{\pm 0.10}$	0.2	20.00	6°					●	●	○	○	○	○	●	●

Velocità di taglio Vc [m/min]		GF110		KM		PM	
		CARBOSPEED rivestimento PVD	NANOSPEED rivestimento PVD	CARBOSPEED rivestimento PVD	NANOSPEED rivestimento PVD	CARBOSPEED rivestimento PVD	NANOSPEED rivestimento PVD
P	ACCIAI	★ 80÷220	☆ 80÷220	★ 70÷200	☆ 70÷200	★ 60÷180	☆ 60÷180
M	ACCIAI INOSSIDABILI		★ 60÷180		★ 50÷160		★ 40÷140
S	LEGHE RESISTENTI AL CALORE		☆ 40÷100		☆ 30÷80		

◯ lavorazione stabile ⟲ uso generico ⟲ condizioni difficili

★ prima scelta - ☆ seconda scelta

		Raggio inserto	Larghezza inserto W 1.5	2	2.5	3
Troncatura	Avanzamento fn [mm/giro]	R 0.2	0.02÷0.09	0.03÷0.11	0.04÷0.12	0.05÷0.13

M S considerare dal valore minimo al valore medio

P considerare dal valore medio al valore massimo

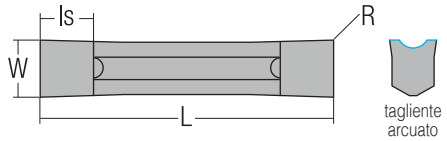
UTENSILI p. 93

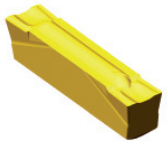
MATERIALI p. 263

DATI TECNICI p. 241

BTNG
materiali di difficile lavorabilità

▽▽▽ inserto rettificato





ISO 513	GF110 TILOX rivestimento PVD	GF110 NANOSPEED rivestimento PVD	GF110 Non rivestito	GF110 HARDLOX2 rivestimento PVD
P	★	☆		
M	☆	★		
K				
N			★	
S		★		
H				★

S	DESCRIZIONE	W	R	L	ls	STOCK TILOX	STOCK NANOSPEED	STOCK Non rivestito	STOCK HARDLOX2
20÷25	BTNG 202	2.00±0.025	0.2	20.00	2.0	○	○	○	○
	BTNG 2.5	2.50±0.025	0.2	20.00	2.0	○	○	○	
30	BTNG 302	3.00±0.025	0.2	20.00	3.5		○	○	○
	304	3.00±0.025	0.4	20.00	3.5		●	○	○
40	BTNG 402	4.00±0.025	0.2	20.00	3.5		○	○	○
	404	4.00±0.025	0.4	20.00	3.5		●	○	○
	408	4.00±0.025	0.8	20.00	3.5		●	○	○
50	BTNG 504	5.00±0.025	0.4	25.00	4.2		○	○	○
	508	5.00±0.025	0.8	25.00	4.2		●	○	○
60	BTNG 604	6.00±0.025	0.4	30.00	4.9		○	○	○
	608	6.00±0.025	0.8	30.00	4.9		●	○	
80	BTNG 808	8.00±0.025	0.8	30.00	6.4		○	○	○
	812	8.00±0.025	1.2	30.00	6.4		○	○	
100	BTNG 1008	10.00±0.025	0.8	30.00	8.1		○	○	
	1012	10.00±0.025	1.2	30.00	8.1		○	○	

Velocità di taglio Vc [m/min]

		TILOX rivestimento PVD	NANOSPEED rivestimento PVD	Non rivestito	HARDLOX2 rivestimento PVD
P	ACCIAI	★ 80÷220	☆ 80÷220		
M	ACCIAI INOSSIDABILI	☆ 60÷180	★ 60÷180		
N	MATERIALI NON FERROSI			★ 200÷500	
S	LEGHE RESISTENTI AL CALORE		★ 40÷100		
H	MATERIALI TEMPRATI				★ 30÷60

◯ lavorazione stabile ◯ uso generico ◯ condizioni difficili

★ prima scelta - ☆ seconda scelta

		Raggio inserto	Larghezza inserto W 2	2.5	3	4	5	6	8	10
Scanalatura	Avanzamento fn [mm/giro]	R 0.2	0.05÷0.10	0.06÷0.11	0.07÷0.12	0.09÷0.14	-	-	-	-
		R 0.4	-	-	0.07÷0.13	0.09÷0.15	0.11÷0.19	0.13÷0.23	-	-
		R 0.8	-	-	-	0.09÷0.17	0.11÷0.21	0.13÷0.25	0.18÷0.34	0.22÷0.38
		R 1.2	-	-	-	-	-	-	0.18÷0.35	0.22÷0.40
Tornitura	Avanzamento fn [mm/giro]	R 0.2	0.10÷0.15	0.12÷0.16	0.14÷0.18	0.16÷0.21	-	-	-	-
		R 0.4	-	-	0.16÷0.20	0.18÷0.24	0.20÷0.30	0.22÷0.36	-	-
		R 0.8	-	-	-	0.20÷0.28	0.23÷0.35	0.24÷0.42	0.32÷0.56	0.32÷0.65
		R 1.2	-	-	-	-	-	-	0.32÷0.62	0.32÷0.72
	Asportazione radiale ap [mm]	R 0.2	0.25÷1.50	0.25÷1.50	0.25÷2.00	0.25÷2.50	-	-	-	-
		R 0.4	-	-	0.50÷2.00	0.50÷2.50	0.50÷3.00	0.50÷3.50	-	-
		R 0.8	-	-	-	1.00÷2.50	1.00÷3.00	1.00÷3.50	1.00÷4.50	1.00÷6.00
		R 1.2	-	-	-	-	-	-	1.50÷4.50	1.50÷6.00

M S H considerare dal valore minimo al valore medio

P N considerare dal valore medio al valore massimo

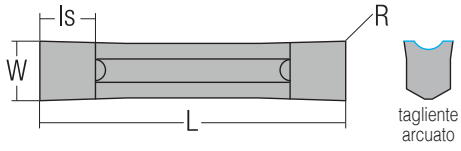
UTENSILI p. 93

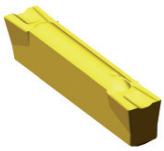
MATERIALI P M K N S H p. 263

DATI TECNICI p. 241

BTNX

spoglia positiva, ridotti sforzi di taglio
GS530 Cermet per finitura - KM TILOX uso generico





ISO 513	GS530 NANOSPEED rivestimento PVD	KM TILOX rivestimento PVD
P	★	★
M	★	★
K	☆	☆
N		
S		
H		

S	DESCRIZIONE	W	R	L	ls	GS530 STOCK	KM STOCK
20÷25	BTNX 202	$2.05^{+0.10}$	0.2	20.10	2.0	●	●
	BTNX 2.5	$2.62^{+0.10}$	0.2	20.10	2.0	●	○
30	BTNX 302	$3.05^{+0.15}$	0.2	20.00	3.5	●	●
	304	$3.05^{+0.15}$	0.4	20.00	3.5	●	●
40	BTNX 404	$4.05^{+0.15}$	0.4	20.00	3.5	●	●
	408	$4.05^{+0.15}$	0.8	20.00	3.5	●	○
50	BTNX 504	$5.05^{+0.25}$	0.4	25.00	4.2	●	○
	508	$5.05^{+0.25}$	0.8	25.00	4.2	●	○

Velocità di taglio Vc [m/min]		GS530	KM
ACCIAI	P	★ 140÷250	★ 70÷200
ACCIAI INOSSIDABILI	M	★ 120÷200	★ 50÷160
GHISE	K	☆ 150÷250	☆ 80÷220

◯ lavorazione stabile ◯ uso generico ◯ condizioni difficili

★ prima scelta - ☆ seconda scelta

		Raggio inserto	Larghezza inserto W 2	2.5	3	4	5
Scanalatura	Avanzamento fn [mm/giro]	R 0.2	0.05÷0.10	0.06÷0.11	0.07÷0.12	-	-
		R 0.4	-	-	0.07÷0.13	0.09÷0.15	0.11÷0.19
		R 0.8	-	-	-	0.09÷0.17	0.11÷0.21
Tornitura	Avanzamento fn [mm/giro]	R 0.2	0.10÷0.15	0.12÷0.16	0.14÷0.18	-	-
		R 0.4	-	-	0.16÷0.20	0.18÷0.24	0.20÷0.30
		R 0.8	-	-	-	0.20÷0.28	0.23÷0.35
	Asportazione radiale ap [mm]	R 0.2	0.25÷1.50	0.25÷1.50	0.25÷2.00	-	-
		R 0.4	-	-	0.50÷2.00	0.50÷2.50	0.50÷3.00
		R 0.8	-	-	-	1.00÷2.50	1.00÷3.00

M considerare dal valore minimo al valore medio

P K considerare dal valore medio al valore massimo

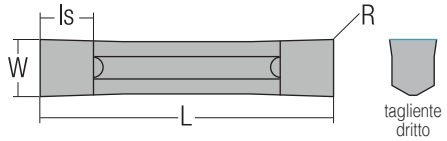
UTENSILI p. 93

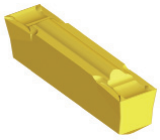
MATERIALI P M K N S H p. 263

DATI TECNICI p. 241

CTDS
super-finitura (tornitura)

▽▽▽ tagliente secondario rettificato





						ISO 513	KM	PM								
							TILOX rivestimento PVD	TILOX rivestimento PVD	NANOSPEED rivestimento PVD							
						P	★	★	☆							
						M	☆	☆	★							
						K	☆									
						N										
						S										
						H										
S	DESCRIZIONE		W	R	L	ls	STOCK	STOCK								
30	CTDS	302	3.08±0.10	0.2	20.00	3.0	●	○	●							
40	CTDS	402	4.08±0.10	0.2	20.00	3.0	●	○	●							
50	CTDS	502	5.13±0.10	0.2	25.00	3.0		●	●							
Velocità di taglio Vc [m/min]	ACCIAI					P	★ 70÷200	★ 60÷180	☆ 60÷180							
	ACCIAI INOSSIDABILI					M	☆ 50÷160	☆ 40÷140	★ 40÷140							
	GHISE					K	☆ 80÷220									

◯ lavorazione stabile ◯ uso generico ◯ condizioni difficili

★ prima scelta - ☆ seconda scelta

		Raggio inserto	Larghezza inserto W		
			3	4	5
Scanalatura	Avanzamento fn [mm/giro]	R 0.2	0.07÷0.12	0.09÷0.14	0.11÷0.17
Tornitura	Avanzamento fn [mm/giro]	R 0.2	0.14÷0.18	0.16÷0.21	0.20÷0.27
	Asportazione radiale ap [mm]		0.25÷1.50	0.25÷1.50	0.25÷1.50

M considerare dal valore minimo al valore medio

P K considerare dal valore medio al valore massimo

UTENSILI p. 93

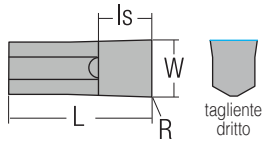
MATERIALI P M K N S H p. 263

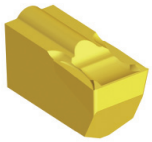
DATI TECNICI p. 241

KCTDS
super-finitura (tornitura) lavorazioni interne

monotagliente

▽▽▽ tagliente secondario rettificato



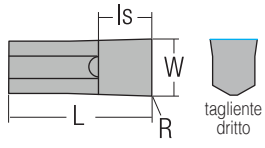


ISO 513

	KM			PM								
	TILOX rivestimento PVD	Non rivestito	HARDLOX2 rivestimento PVD	Non rivestito	NANOSPEED rivestimento PVD							
P	★			☆	☆							
M	☆				★							
K	☆											
N		★										
S												
H			★									

S	DESCRIZIONE	W	R	L	ls	STOCK			STOCK						
30C	KCTDS 3	3.00$^{+0.15}$	0.2	9.50	3.0	●	○		○	●					
	3 MAX	3.00$^{+0.15}$	0.2	12.00	3.0	○	○		○	○					

KCTD
tagliente rinforzato scanalatura interna



ISO 513

	KM			PM								
	TILOX rivestimento PVD	Non rivestito	HARDLOX2	Non rivestito	NANOSPEED rivestimento PVD							
P	★			☆	☆							
M	☆				★							
K	☆											
N		★										
S												
H			★									

S	DESCRIZIONE	W	R	L	ls	STOCK			STOCK						
30C	KCTD 3	3.00$^{+0.15}$	0.2	9.50	3.0	●	○	○	●	●					
	3 MAX	3.00$^{+0.15}$	0.2	12.00	3.0	●	○	○	○	●					

Velocità di taglio Vc [m/min]												
ACCIAI	P	★ 70÷200			☆ 50÷100	☆ 60÷180						
ACCIAI INOSSIDABILI	M	☆ 50÷160				★ 40÷140						
GHISE	K	☆ 80÷220										
MATERIALI NON FERROSI	N		★ 200÷500									
MATERIALI TEMPRATI	H			★ 20÷50								

◯ lavorazione stabile ◯ uso generico ◯ condizioni difficili

★ prima scelta - ☆ seconda scelta

		Raggio inserto	Larg. inserto W
			3
Scanalatura	Avanzamento fn [mm/giro]	R 0.2	0.07÷0.12

Solo per geometria **KCTDS**

		Raggio inserto	Larg. inserto W
Tornitura	Avanzamento fn [mm/giro]	R 0.2	0.14÷0.18
	Asportaz. radiale ap [mm]		0.25÷1.00

M H considerare dal valore minimo al valore medio

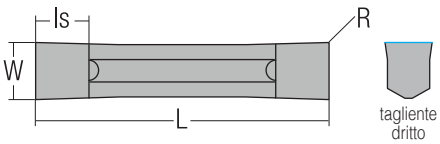
P K N considerare dal valore medio al valore massimo

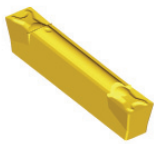
UTENSILI p. 93

MATERIALI P M K N S H p. 263

DATI TECNICI p. 241

MTNS
impiego universale





ISO 513		GF110			KM				PM		
		TILOX rivestimento PVD	ALOX rivestimento PVD	HARDLOX2 rivestimento PVD	TILOX rivestimento PVD	CARBOSPEED rivestimento PVD	NANOSPEED rivestimento PVD	HARDLOX2 rivestimento PVD	TILOX rivestimento PVD	NANOSPEED rivestimento PVD	ALOX rivestimento PVD
P		★	☆		★	★	☆		★	☆	☆
M		☆			☆		★		☆	★	
K		☆	★		☆						★
N											
S											
H				★				★			

S	DESCRIZIONE	W	R	L	ls	STOCK			STOCK				STOCK		
20÷25	MTNS 202	2.05$^{+0.10}$	0.2	20.10	2.0	●	●	○	●	○	○	○	○	●	○
	MTNS 2.5	2.62$^{+0.10}$	0.2	20.10	2.0	○	○		●	○	○		○	●	○
30	MTNS 302	3.00$^{+0.15}$	0.2	20.00	3.5	●	●	○	●	●	●	○	○	●	●
	304	3.00$^{+0.15}$	0.4	20.00	3.5	●	●	○	●	●	●	○	○	●	●
40	MTNS 402	4.00$^{+0.20}$	0.2	20.00	3.5	○	○	○	●	○	○	○	○	●	●
	404	4.00$^{+0.20}$	0.4	20.00	3.5	●	●	○	●	●	●	○	○	●	●
	408	4.00$^{+0.15}$	0.8	20.00	3.5		●	○	●	○	○	○	○	●	●
50	MTNS 504	5.00$^{+0.25}$	0.4	25.00	4.2	○	○	○	●	○	○	○	○	●	●
	508	5.05$^{+0.25}$	0.8	25.00	4.2	●	●	○	●	●	●	○	○	●	●
60	MTNS 604	6.05$^{+0.25}$	0.4	30.00	4.9	○	○	○	●	○	○	○	○	●	●
	608	6.05$^{+0.25}$	0.8	30.00	4.9	●	●		●	●	●		○	●	●
	612	6.05$^{+0.25}$	1.2	30.00	4.9	○	○		○	○	○		○	○	○
80	MTNS 808	8.05$^{+0.25}$	0.8	30.00	6.4	○	●	○	●	○	○	○	○	○	○
	812	8.05$^{+0.25}$	1.2	30.00	6.4	○	●		●	○	○		○	○	○
100	MTNS 1008	10.05$^{+0.25}$	0.8	30.00	8.1	○	○		●	○	○		○	○	○
	1012	10.05$^{+0.25}$	1.2	30.00	8.1	○	○		●	○	○		○	○	○

Velocità di taglio Vc [m/min]												
ACCIAI	P	★ 80÷220	☆ 80÷220		★ 70÷200	★ 70÷200	☆ 70÷200		★ 60÷180	☆ 60÷180	☆ 60÷180	
ACCIAI INOSSIDABILI	M	☆ 60÷180			☆ 50÷160		★ 50÷160		☆ 40÷140	★ 40÷140		
GHISE	K	☆ 100÷240	★ 100÷240		☆ 80÷220						★ 100÷200	
MATERIALI TEMPRATI	H			★ 30÷60				★ 20÷50				

◯ lavorazione stabile ◯ uso generico ◯ condizioni difficili

★ prima scelta - ☆ seconda scelta

		Raggio inserto	Larghezza inserto W							
			2	2.5	3	4	5	6	8	10
Scanalatura	Avanzamento fn [mm/giro]	R 0.2	0.05÷0.10	0.06÷0.11	0.07÷0.12	0.09÷0.14	-	-	-	-
		R 0.4	-	-	0.07÷0.13	0.09÷0.15	0.11÷0.19	0.13÷0.23	-	-
		R 0.8	-	-	-	0.09÷0.17	0.11÷0.21	0.13÷0.25	0.18÷0.34	0.22÷0.38
		R 1.2	-	-	-	-	-	0.13÷0.26	0.18÷0.35	0.22÷0.40
Tornitura	Avanzamento fn [mm/giro]	R 0.2	0.10÷0.15	0.12÷0.16	0.14÷0.18	0.16÷0.21	-	-	-	-
		R 0.4	-	-	0.16÷0.20	0.18÷0.24	0.20÷0.30	0.22÷0.36	-	-
		R 0.8	-	-	-	0.20÷0.28	0.23÷0.35	0.24÷0.42	0.32÷0.56	0.32÷0.65
		R 1.2	-	-	-	-	-	0.24÷0.46	0.32÷0.62	0.32÷0.72
	Asportazione radiale ap [mm]	R 0.2	0.25÷1.50	0.25÷1.50	0.25÷2.00	0.25÷2.50	-	-	-	-
		R 0.4	-	-	0.50÷2.00	0.50÷2.50	0.50÷3.00	0.50÷3.50	-	-
		R 0.8	-	-	-	1.00÷2.50	1.00÷3.00	1.00÷3.50	1.00÷4.50	1.00÷6.00
		R 1.2	-	-	-	-	-	1.50÷3.50	1.50÷4.50	1.50÷6.00

M H considerare dal valore minimo al valore medio

P K considerare dal valore medio al valore massimo

UTENSILI p. 93

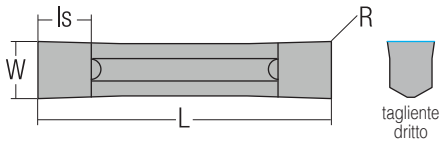
MATERIALI p. 263

DATI TECNICI p. 241

MTNSG

acciaio inossidabile, alluminio e titanio

▽▽▽ inserto rettificato e lucidato



ISO 513

KM

TILOX rivestimento PVD

P	☆																
M	★																
K																	
N	★																
S	☆																
H																	

S	DESCRIZIONE	W	R	L	ls	STOCK									
20÷25	MTNSG 202	1.95$^{\pm0.025}$	0.2	20.00	2.0	●									
	MTNSG 2.5	2.45$^{\pm0.025}$	0.2	20.10	2.0	●									
30	MTNSG 302	2.95$^{\pm0.025}$	0.2	19.95	3.5	●									
	304	2.95$^{\pm0.025}$	0.4	19.95	3.5	●									
40	MTNSG 402	3.95$^{\pm0.025}$	0.2	19.85	3.5	●									
	404	3.95$^{\pm0.025}$	0.4	19.85	3.5	●									
	408	3.95$^{\pm0.025}$	0.8	19.85	3.5	●									
50	MTNSG 504	5.00$^{\pm0.025}$	0.4	24.85	4.2	●									
	508	5.00$^{\pm0.025}$	0.8	24.85	4.2	●									
60	MTNSG 604	6.00$^{\pm0.025}$	0.4	29.80	4.9	●									
	608	6.00$^{\pm0.025}$	0.8	29.80	4.9	●									
	612	6.00$^{\pm0.025}$	1.2	29.80	4.9	○									
80	MTNSG 808	7.95$^{\pm0.025}$	0.8	29.65	6.4	○									
	812	7.95$^{\pm0.025}$	1.2	29.65	6.4	○									
100	MTNSG 1008	9.95$^{\pm0.025}$	0.8	29.70	8.1	○									
	1012	9.95$^{\pm0.025}$	1.2	29.70	8.1	○									

Velocità di taglio Vc [m/min]

ACCIAI	P	☆ 70÷200													
ACCIAI INOSSIDABILI	M	★ 50÷160													
MATERIALI NON FERROSI	N	★ 200÷500													
LEGHE RESISTENTI AL CALORE	S	☆ 30÷60													

◯ lavorazione stabile ◯ uso generico ◯ condizioni difficili

★ prima scelta - ☆ seconda scelta

		Raggio inserto	Larghezza inserto W							
			2	2.5	3	4	5	6	8	10
Scanalatura	Avanzamento fn [mm/giro]	R 0.2	0.05÷0.10	0.06÷0.11	0.07÷0.12	0.09÷0.14	-	-	-	-
		R 0.4	-	-	0.07÷0.13	0.09÷0.15	0.11÷0.19	0.13÷0.23	-	-
		R 0.8	-	-	-	0.09÷0.17	0.11÷0.21	0.13÷0.25	0.18÷0.34	0.22÷0.38
		R 1.2	-	-	-	-	-	0.13÷0.26	0.18÷0.35	0.22÷0.40
Tornitura	Avanzamento fn [mm/giro]	R 0.2	0.10÷0.15	0.12÷0.16	0.14÷0.18	0.16÷0.21	-	-	-	-
		R 0.4	-	-	0.16÷0.20	0.18÷0.24	0.20÷0.30	0.22÷0.36	-	-
		R 0.8	-	-	-	0.20÷0.28	0.23÷0.35	0.24÷0.42	0.32÷0.56	0.32÷0.65
		R 1.2	-	-	-	-	-	0.24÷0.46	0.32÷0.62	0.32÷0.72
	Asportazione radiale ap [mm]	R 0.2	0.25÷1.50	0.25÷1.50	0.25÷2.00	0.25÷2.50	-	-	-	-
		R 0.4	-	-	0.50÷2.00	0.50÷2.50	0.50÷3.00	0.50÷3.50	-	-
		R 0.8	-	-	-	1.00÷2.50	1.00÷3.00	1.00÷3.50	1.00÷4.50	1.00÷6.00
		R 1.2	-	-	-	-	-	1.50÷3.50	1.50÷4.50	1.50÷6.00

M S considerare dal valore minimo al valore medio

P N considerare dal valore medio al valore massimo

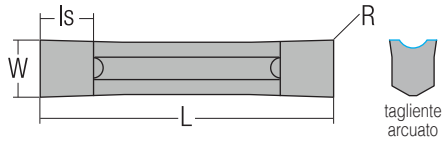
UTENSILI p. 93

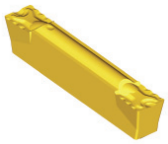
MATERIALI P M K N S H p. 263

DATI TECNICI p. 241

MTNZ
ottimo controllo truciolo in tornitura

tagliente secondario ondulato





S	DESCRIZIONE	W	R	L	ls	KM TILOX rivestimento PVD	KM NANOSPEED rivestimento PVD	PM TILOX rivestimento PVD	PM NANOSPEED rivestimento PVD	PM ALOX rivestimento PVD
	ISO 513					P ★	P ☆	P ★	P ☆	P ☆
						M ☆	M ★	M ☆	M ★	
						K ☆				K ★
						N	N	N	N	N
						S	S ☆	S	S	S
						H	H	H	H	H
30	MTNZ 304	3.075$^{\pm0.075}$	0.4	20.00	3.5	●	●	●	●	●
35	MTNZ 3.5	3.55$^{\pm0.08}$	0.2	20.00	3.5			○	○	○
40	MTNZ 402	4.00$^{+0.20}$	0.2	20.00	3.5	○	○	○	○	○
	404	4.10$^{\pm0.10}$	0.4	20.00	3.5	●	●	●	●	●
50	MTNZ 504	5.00$^{\pm0.25}$	0.4	25.00	4.2	○	○	○	○	○
	508	5.125$^{\pm0.125}$	0.8	25.00	4.2	●	●	●	●	●
60	MTNZ 604	6.125$^{\pm0.125}$	0.4	30.00	4.9	○	○	○	○	○
	608	6.125$^{\pm0.125}$	0.8	30.00	4.9	●	●	●	●	●
80	MTNZ 808	8.125$^{\pm0.125}$	0.8	30.00	6.4	○	○	○	○	○
	812	8.125$^{\pm0.125}$	1.2	30.00	6.4	○	○	○	○	○

Velocità di taglio Vc [m/min]		KM TILOX	KM NANOSPEED	PM TILOX	PM NANOSPEED	PM ALOX
	ACCIAI P	★ 70÷200	☆ 70÷200	★ 60÷180	☆ 60÷180	☆ 60÷180
	ACCIAI INOSSIDABILI M	☆ 50÷160	★ 50÷160	☆ 40÷140	★ 40÷140	
	GHISE K	☆ 80÷220				★ 100÷200
	LEGHE RESISTENTI AL CALORE S		☆ 30÷80			

◯ lavorazione stabile ◯ uso generico ◯ condizioni difficili

★ prima scelta - ☆ seconda scelta

		Raggio inserto	Larghezza inserto W 3	3.5	4	5	6	8
Scanalatura	Avanzamento fn [mm/giro]	R 0.2	-	0.08÷0.13	0.09÷0.14	-	-	-
		R 0.4	0.07÷0.13	-	0.09÷0.15	0.11÷0.19	0.13÷0.23	-
		R 0.8	-	-	-	0.11÷0.21	0.13÷0.25	0.18÷0.34
		R 1.2	-	-	-	-	-	0.18÷0.35
Tornitura	Avanzamento fn [mm/giro]	R 0.2	-	0.15÷0.19	0.16÷0.21	-	-	-
		R 0.4	0.16÷0.20	-	0.18÷0.24	0.20÷0.30	0.22÷0.36	-
		R 0.8	-	-	-	0.23÷0.35	0.24÷0.42	0.32÷0.56
		R 1.2	-	-	-	-	-	0.32÷0.62
	Asportazione radiale ap [mm]	R 0.2	-	0.25÷2.00	0.25÷2.50	-	-	-
		R 0.4	0.50÷2.00	-	0.50÷2.50	0.50÷3.00	0.50÷3.50	-
		R 0.8	-	-	-	1.00÷3.00	1.00÷3.50	1.00÷4.50
		R 1.2	-	-	-	-	-	1.50÷4.50

M S considerare dal valore minimo al valore medio

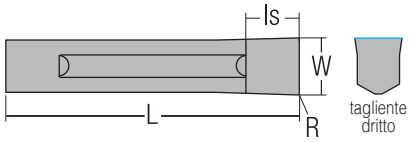
P K considerare dal valore medio al valore massimo

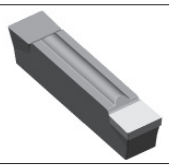
UTENSILI p. 93

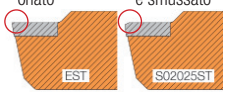
MATERIALI P M K N S H p. 263

DATI TECNICI p. 241

OTX PCBN
materiali temprati e ghisa







ISO 513

PCBN

		DESCRIZIONE	W	R	L	ls	CBN5625GL rivestimento PVD	CBN1630GL non rivestito
P								
M								
K								★
N								
S								
H							★	☆
S		DESCRIZIONE	W	R	L	ls	STOCK	
30	OTX	304 EST	3.00±0.025	0.4	20,00	3.00		○
		304 S02025ST	3.00±0.025	0.4	20,00	3.00	○	○
40	OTX	404 EST	4.00±0.025	0.4	20.00	3.30		○
		404 S02025ST	4.00±0.025	0.4	20.00	3.30	○	○
50	OTX	508 EST	5.00±0.025	0.8	25.00	3.50		○
		508 S02025ST	5.00±0.025	0.8	25.00	3.50	○	○
60	OTX	608 EST	6.00±0.025	0.8	30.00	4.00		○
		608 S02025ST	6.00±0.025	0.8	30.00	4.00	○	○

Velocità di taglio Vc [m/min]				
GHISE	K		★ 250÷1000	
MATERIALI TEMPRATI	H	★ 80÷150	☆ 80÷120	

○ lavorazione stabile ○ uso generico ○ condizioni difficili

★ prima scelta - ☆ seconda scelta

Scanalatura

Avanzamento fn [mm/giro]

Raggio inserto	Larghezza inserto W 3	4	5	6
R 0.4	0.05÷0.15	0.08÷0.15	-	-
R 0.8	-	-	0.08÷0.16	0.08÷0.18

H considerare dal valore minimo al valore medio

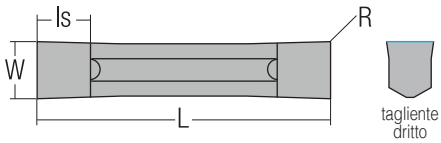
K considerare dal valore medio al valore massimo

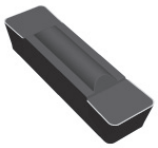
UTENSILI p. 93

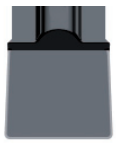
MATERIALI p. 263

DATI TECNICI p. 241

OTXC
lavorazione di ghisa







ISO 513	KM	CASTSPEED rivestimento CVD
P		
M		
K	★	
N		
S		
H		

S	DESCRIZIONE	W	R	L	ls	STOCK
30	OTXC 304	3.08±0.10	0.4	20.00	3.5	●
40	OTXC 402	4.08±0.10	0.2	20.00	3.5	○
	404	4.08±0.10	0.4	20.00	3.5	●
50	OTXC 504	5.13±0.10	0.4	25.00	4.2	○
	508	5.13±0.10	0.8	25.00	4.2	●
60	OTXC 604	6.13±0.10	0.4	30.00	6.4	○
	608	6.13±0.10	0.8	30.00	6.4	●
80	OTXC 808	8.13±0.10	0.8	30.00	6.4	●
	812	8.13±0.10	1.2	30.00	6.4	●

Vc [m/min]	GHISE	K	★ 150÷300

◯ lavorazione stabile ◯ uso generico ◯ condizioni difficili

★ prima scelta - ☆ seconda scelta

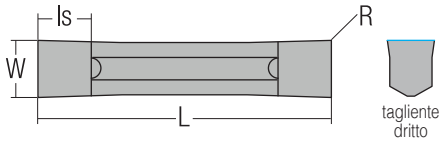
		Raggio inserto	Larghezza inserto W				
			3	4	5	6	8
Scanalatura	Avanzamento fn [mm/giro]	R 0.2	-	0.09÷0.14	-	-	-
		R 0.4	0.07÷0.13	0.09÷0.15	0.11÷0.19	0.13÷0.23	-
		R 0.8	-	-	0.11÷0.21	0.13÷0.25	0.18÷0.34
		R 1.2	-	-	-	-	0.18÷0.35
Tornitura	Avanzamento fn [mm/giro]	R 0.2	-	0.16÷0.21	-	-	-
		R 0.4	0.16÷0.20	0.18÷0.24	0.20÷0.30	0.22÷0.36	-
		R 0.8	-	-	0.23÷0.35	0.24÷0.42	0.32÷0.56
		R 1.2	-	-	-	-	0.32÷0.62
	Asportazione radiale ap [mm]	R 0.2	-	0.25÷2.50	-	-	-
		R 0.4	0.50÷2.00	0.50÷2.50	0.50÷3.00	0.50÷3.50	-
		R 0.8	-	-	1.00÷3.00	1.00÷3.50	1.00÷4.50
		R 1.2	-	-	-	-	1.50÷4.50

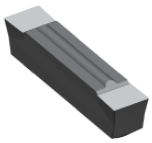
UTENSILI p. 93

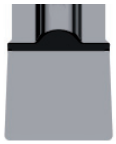
MATERIALI p. 263

DATI TECNICI p. 241

OTXS
base per soluzioni speciali







ISO 513		KM		PM
		Non rivestito	HARDLOX2	Non rivestito
P				☆
M				
K		☆		
N				
S				
H			★	

S	DESCRIZIONE	W	R	L	ls	STOCK		STOCK
30	OTXS 302	3.00 +0.10	0.2	20.00	3.5	○	○	○
40	OTXS 402	4.00 +0.20	0.2	20.00	3.5	○	○	○
50	OTXS 502	5.00 +0.25	0.2	25.00	4.2	○		○
	OTXS 502 6.5	6.50 +0.25	0.2	30.00	4.9	○		○
80	OTXS 808	8.05 +0.25	0.8	30.00	6.4	○		
100	OTXS 1008	10.05 +0.25	0.8	30.00	8.1	○		

Velocità di taglio Vc [m/min]				
ACCIAI	P			☆ 50÷100
GHISE	K	☆ 60÷150		
MATERIALI TEMPRATI	H		★ 20÷50	

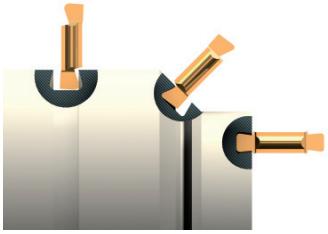
◯ lavorazione stabile ⟳ uso generico ⟲ condizioni difficili

★ prima scelta - ☆ seconda scelta

		Raggio inserto	Larghezza inserto W					
			3	4	5	6	8	10
Scanalatura	Avanzamento fn [mm/giro]	R 0.2	0.07÷0.12	0.09÷0.14	0.11÷0.18	0.13÷0.23	-	-
		R 0.4	-	-	-	-	-	-
		R 0.8	-	-	-	-	0.18÷0.34	0.22÷0.38

H considerare dal valore minimo al valore medio

P K considerare dal valore medio al valore massimo



OTXS base per soluzioni speciali
(vedi modulo p. 262)

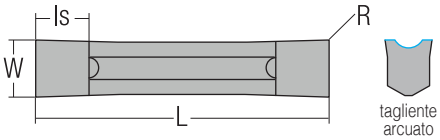
UTENSILI p. 93

MATERIALI p. 263

DATI TECNICI p. 241

STNG - STNZ
materiali non ferrosi

STNG superficie lucidata, tagliente vivo
STNZ superficie lucidata, tagliente arrotondato



ISO 513	TILOX rivestimento PVD	Non rivestito	ALUSPEED rivestimento PVD	HYPERSPEED rivestimento PVD
	KM			
P	☆			
M	☆			☆
K	☆			
N		☆	★	
S				★
H				

S	DESCRIZIONE	W	R	L	ls	STOCK			
50	STNG 502	5.25$^{+0.075}$	0.2	25.00	2.5	○	○	○	○
	504	5.10$^{+0.50}$	0.4	25.00	2.5	○	○	○	○
	STNZ 504	5.10$^{+0.50}$	0.4	25.00	2.5	○		○	○

Velocità di taglio Vc [m/min]						
ACCIAI	P	☆ 70÷200				
ACCIAI INOSSIDABILI	M	☆ 50÷160			☆ 50÷160	
GHISE	K	☆ 80÷220				
MATERIALI NON FERROSI	N		☆ 200÷500	★ 200÷600		
LEGHE RESISTENTI AL CALORE	S				★ 30÷80	

◯ lavorazione stabile ◯ uso generico ⬡ condizioni difficili

★ prima scelta - ☆ seconda scelta

		Raggio inserto	Larg. inserto W 5
Scanalatura	Avanzamento fn [mm/giro]	R 0.2	0.11÷0.17
		R 0.4	0.11÷0.19
Tornitura	Avanzamento fn [mm/giro]	R 0.2	0.20÷0.27
		R 0.4	0.20÷0.30
	Asportazione radiale ap [mm]	R 0.2	0.25÷2.00
		R 0.4	0.50÷2.00

M S considerare dal valore minimo al valore medio

P K N considerare dal valore medio al valore massimo

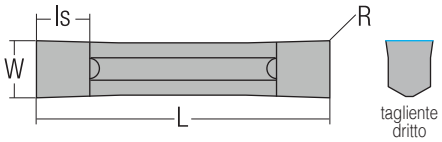
UTENSILI p. 93

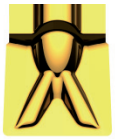
MATERIALI P M K N S H p. 263

DATI TECNICI p. 241

VTNS

rompitruciolo ampio
lavorazioni profonde e frontali





ISO 513	GF110	KM	PM		
	TILOX rivestimento PVD	TILOX rivestimento PVD	TILOX rivestimento PVD	NANOSPEED rivestimento PVD	ALOX rivestimento PVD
P	★	★	★	☆	☆
M	☆	☆	☆	★	
K	☆	☆			★
N					
S					
H					

S	DESCRIZIONE	W	R	L	ls	STOCK	STOCK	STOCK		
30	**VTNS 302**	$3.00^{+0.15}$	0.2	20.00	3.0	●	●	●	●	●
35	**VTNS 3.5**	$3.55^{\pm0.035}$	0.2	20.00	3.0	○	○	○	○	○
40	**VTNS 402**	$4.00^{+0.20}$	0.2	20.00	3.5	●	●	●	●	●
50	**VTNS 502**	$5.00^{+0.25}$	0.2	25.00	4.2	●	●	●	●	●

Velocità di taglio Vc [m/min]						
ACCIAI	P	★ 80÷220	★ 70÷200	★ 60÷180	☆ 60÷180	☆ 60÷180
ACCIAI INOSSIDABILI	M	☆ 60÷180	☆ 50÷160	☆ 40÷140	★ 40÷140	
GHISE	K	☆ 100÷240	☆ 80÷220			★ 100÷200

◯ lavorazione stabile ◯ uso generico ◯ condizioni difficili

★ prima scelta - ☆ seconda scelta

		Raggio inserto	Larghezza inserto W			
			3	3.5	4	5
Scanalatura	Avanzamento fn [mm/giro]	R 0.2	0.07÷0.12	0.08÷0.13	0.09÷0.14	0.11÷0.16
Tornitura	Avanzamento fn [mm/giro]	R 0.2	0.14÷0.18	0.15÷0.19	0.16÷0.21	0.18÷0.26
	Asportazione radiale ap [mm]		0.25÷2.00	0.25÷2.00	0.25÷2.50	0.25÷3.00

M considerare dal valore minimo al valore medio

P K considerare dal valore medio al valore massimo

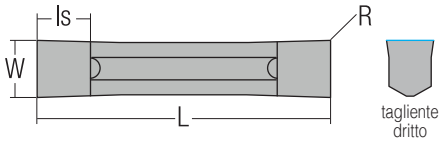
UTENSILI p. 93

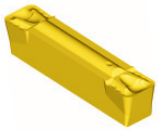
MATERIALI P M K N S H p. 263

DATI TECNICI p. 241

XTNS

impiego universale
taglio dolce





ISO 513		GF110	KM
		TILOX rivestimento PVD	TILOX rivestimento PVD
P		★	★
M		★	★
K		☆	☆
N			
S			
H			

S	DESCRIZIONE	W	R	L	ls	STOCK	STOCK
20	XTNS 202	2.05$^{+0.10}$	0.2	20.15	2.0	●	●
30	XTNS 302	3.05$^{+0.15}$	0.2	20.15	3.0	●	●
	304	3.05$^{+0.15}$	0.4	20.15	3.0	●	●
40	XTNS 404	4.05$^{+0.15}$	0.4	20.15	3.4	●	●
	408	4.05$^{+0.15}$	0.8	20.15	3.4	●	●
50	XTNS 504	5.05$^{+0.25}$	0.4	25.15	4.2	●	●
	508	5.05$^{+0.25}$	0.8	25.15	4.2	●	●
60	XTNS 604	6.05$^{+0.25}$	0.4	30.10	4.5	●	●
	608	6.05$^{+0.25}$	0.8	30.10	4.5	●	●
	612	6.05$^{+0.25}$	1.2	30.10	4.5	○	○
80	XTNS 808	8.05$^{+0.25}$	0.8	30.10	6.0	○	○
	812	8.05$^{+0.25}$	1.2	30.10	6.0	○	○
100	XTNS 1008	10.05$^{+0.25}$	0.8	30.10	6.1	○	○
	1012	10.05$^{+0.25}$	1.2	30.10	6.1	○	○

Velocità di taglio Vc [m/min]			
ACCIAI	P	★ 80÷220	★ 70÷200
ACCIAI INOSSIDABILI	M	★ 60÷180	★ 50÷160
GHISE	K	☆ 100÷240	☆ 80÷220

◯ lavorazione stabile ◯ uso generico ◯ condizioni difficili

★ prima scelta - ☆ seconda scelta

		Raggio inserto	Larghezza inserto W						
			2	3	4	5	6	8	10
Scanalatura	Avanzamento fn [mm/giro]	R 0.2	0.05÷0.10	0.07÷0.12	-	-	-	-	-
		R 0.4	-	0.07÷0.13	0.09÷0.15	0.11÷0.19	0.13÷0.23	-	-
		R 0.8	-	-	0.09÷0.17	0.11÷0.21	0.13÷0.25	0.18÷0.34	0.22÷0.38
		R 1.2	-	-	-	-	0.13÷0.26	0.18÷0.35	0.22÷0.40
Tornitura	Avanzamento fn [mm/giro]	R 0.2	0.10÷0.15	0.14÷0.18	-	-	-	-	-
		R 0.4	-	0.16÷0.20	0.18÷0.24	0.20÷0.30	0.22÷0.36	-	-
		R 0.8	-	-	0.20÷0.28	0.23÷0.35	0.24÷0.42	0.32÷0.56	0.32÷0.65
		R 1.2	-	-	-	-	0.24÷0.46	0.32÷0.62	0.32÷0.72
	Asportazione radiale ap [mm]	R 0.2	0.25÷1.50	0.25÷2.00	-	-	-	-	-
		R 0.4	-	0.50÷2.00	0.50÷2.50	0.50÷3.00	0.50÷3.50	-	-
		R 0.8	-	-	1.00÷2.50	1.00÷3.00	1.00÷3.50	1.00÷4.50	1.00÷5.00
		R 1.2	-	-	-	-	1.50÷3.50	1.50÷4.50	1.50÷5.00

M considerare dal valore minimo al valore medio

P K considerare dal valore medio al valore massimo

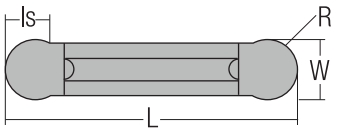
UTENSILI p. 93

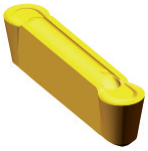
MATERIALI P M K N S H p. 263

DATI TECNICI p. 241

RTNG
materiali di difficile lavorabilità

▽▽▽ inserto rettificato





ISO 513

GF110

	NANOSPEED rivestimento PVD	Non rivestito	HARDLOX2 rivestimento PVD
P	☆		
M	★		
K			
N		★	
S	★		
H			★

S	DESCRIZIONE	W	R	L	ls	STOCK		
20	RTNG 210	2.00$^{\pm0.025}$	1	20.00	1.71	●	○	○
30	RTNG 315	3.00$^{\pm0.025}$	1.5	20.00	2.60	●	○	○
40	RTNG 420	4.00$^{\pm0.025}$	2	20.00	3.40	●	○	○
50	RTNG 525	5.00$^{\pm0.025}$	2.5	25.00	4.10	○	○	○
60	RTNG 630	6.00$^{\pm0.025}$	3	30.00	4.90	○	○	○
80	RTNG 840	8.00$^{\pm0.025}$	4	30.00	6.50	○	○	○
100	RTNG 1050	10.00$^{\pm0.025}$	5	30.00	8.10	○	○	○

Velocità di taglio Vc [m/min]

		NANOSPEED rivestimento PVD	Non rivestito	HARDLOX2 rivestimento PVD
P	ACCIAI	☆ 80÷220		
M	ACCIAI INOSSIDABILI	★ 60÷180		
N	MATERIALI NON FERROSI		★ 200÷500	
S	LEGHE RESISTENTI AL CALORE	★ 40÷100		
H	MATERIALI TEMPRATI			★ 30÷60

◯ lavorazione stabile ◯ uso generico ◯ condizioni difficili

★ prima scelta - ☆ seconda scelta

		Raggio inserto	Raggio inserto R					
			R1	R1.5	R2	R2.5	R3	R4	R5
Scanalatura	Avanzamento fn [mm/giro]	-	0.05÷0.11	0.08÷0.15	0.09÷0.17	0.11÷0.21	0.13÷0.25	0.18÷0.34	0.22÷0.40
Profilatura	Avanzamento fn [mm/giro]	-	0.12÷0.18	0.18÷0.28	0.20÷0.34	0.23÷0.42	0.24÷0.50	0.32÷0.67	0.35÷0.78
	Asportazione radiale ap [mm]		0.00÷1.00	0.00÷1.50	0.00÷2.00	0.00÷2.50	0.00÷3.00	0.00÷4.00	0.00÷5.00

M S H considerare dal valore minimo al valore medio

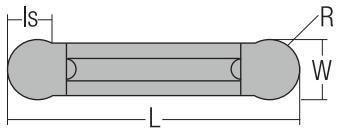
P N considerare dal valore medio al valore massimo

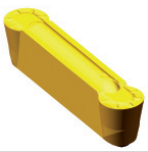
UTENSILI p. 93

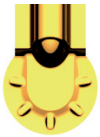
MATERIALI P M K N S H p. 263

DATI TECNICI p. 241

RTNX
impiego universale







S	DESCRIZIONE	W	R	L	ls	STOCK
20	RTNX 210	$2.05^{+0.10}$	1	20.10	1.76	●
30	RTNX 315	$3.05^{+0.15}$	1.5	20.00	2.60	●
40	RTNX 420	$4.05^{+0.15}$	2	20.00	3.40	●
50	RTNX 525	$5.05^{+0.25}$	2.5	25.00	4.10	●
60	RTNX 630	$6.05^{+0.25}$	3	30.00	4.90	●
80	RTNX 840	$8.05^{+0.25}$	4	30.00	6.50	●
100	RTNX 1050	$10.05^{+0.25}$	5	30.00	8.10	●

ISO 513	TILOX rivestimento PVD	KM
P	★	
M	★	
K	★	
N		
S		
H		

Velocità di taglio Vc [m/min]			
ACCIAI	P	★	70÷200
ACCIAI INOSSIDABILI	M	★	50÷160
GHISE	K	★	80÷220

◯ lavorazione stabile ◔ uso generico ⬡ condizioni difficili

★ prima scelta - ☆ seconda scelta

		Raggio inserto	Raggio inserto R						
			R1	R1.5	R2	R2.5	R3.0	R4.0	R5
Scanalatura	Avanzamento fn [mm/giro]	-	0.05÷0.11	0.08÷0.15	0.09÷0.17	0.11÷0.21	0.13÷0.25	0.18÷0.34	0.22÷0.40
Profilatura	Avanzamento fn [mm/giro]	-	0.12÷0.18	0.18÷0.28	0.20÷0.34	0.23÷0.42	0.24÷0.50	0.32÷0.67	0.35÷0.78
	Asportazione radiale ap [mm]		0.00÷1.00	0.00÷1.50	0.00÷2.00	0.00÷2.50	0.00÷3.00	0.00÷4.00	0.00÷5.00

M considerare dal valore minimo al valore medio

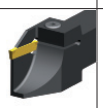
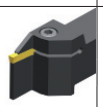
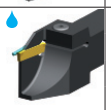
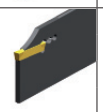
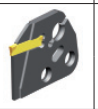
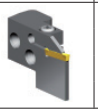
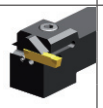
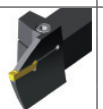
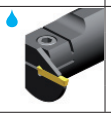
P K considerare dal valore medio al valore massimo

UTENSILI p. 93

MATERIALI P M K N S H p. 263

DATI TECNICI p. 241

GAMMA E CARATTERISTICHE DEGLI UTENSILI — Sistema P92

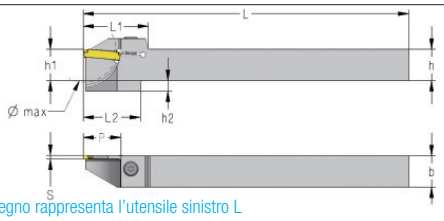
LAVORAZIONE	CARATTERISTICHE		LARGHEZZA INSERTO 1.5	2	2.5	3	3.5	4	5	6	8	10	ATTACCO	DESCRIZIONE		Pag.
ESTERNA	Monoblocco	Ø max	Ø28	Ø34	Ø34								⧄ da 8x8 a 25x25	**P92 CXCB^{R}/$_{L}$**		94
		Ø max				Ø34	Ø34	Ø34	Ø40	Ø52	Ø52	Ø52	⧄ da 12x12 a 32x25	**P92 CXCB^{R}/$_{L}$**		94
		Ø max				Ø65	Ø65	Ø65	Ø80				⧄ da 16x16 a 25x25	**P92 A CXCB^{R}/$_{L}$**		97
	Monoblocco con refrigerazione interna	Ø max		Ø34	Ø34								⧄ da 12x12 a 20x20	**P92 A CXCB^{R}/$_{L}$ HP**		97
		Ø max				Ø34							⧄ da 12x12 a 25x25	**P92 CXCB^{R}/$_{L}$ HP**		96
		Ø max				Ø65		Ø65					⧄ 20x20 e 25x25	**P92 A CXCB^{R}/$_{L}$ HP**		97
	Lame												Altezza da 26 a 52	**P92 TMS**		98
	Lame rinforzate	Ø max				Ø65							Altezza 26 e 32	**P92 CXCB^{R}/$_{L}$ X**		98
	Lame modulari con bloccaggio a vite	Ø max	Ø20	Ø32	Ø32								⧄ 20x20 e 25x25 	**P92-C**		99
	Lame modulari con bloccaggio elastico	Ø max	Ø28	Ø32	Ø32	Ø32								**P92-CT**		99
	Modulare GLM	Ø max		Ø34	Ø34	Ø34		Ø34	Ø44				⧄ da 20x20 a 32x25 HSKT PSC Capto	**GLMC^{R}/$_{L}$ P92**		100
ESTERNA e FRONTALE	Monoblocco	Ø min				Ø70		Ø80	Ø80	Ø120	Ø120		⧄ da 16x16 a 32x32	**P92 90 UNI**		101
FRONTALE	Monoblocco	Ø min Ø max				Ø25 Ø200		Ø30 ∞	Ø42 ∞				⧄ 20x20 e 25x25	**P92 2 CXCB^{R}/$_{L}$**		102
	Cartucce modulari	Ø min Ø max				Ø25 Ø300		Ø42 Ø300					⧄ 20x20 e 25x25 	**C92^{R}/$_{L}$ D**		103
	Modulare GLM	Ø min Ø max								Ø40 ∞	Ø50 Ø510		⧄ da 20x20 a 32x25 HSKT PSC Capto	**GLMC^{R}/$_{L}$ P92 2**		104
	Lame	Ø min Ø max						Ø85 ∞	Ø85 ∞				Altezza 32	**P92 2 TMS**		104
INTERNA	Refrigerazione interna inserto monotagliente	Ø min				Ø15.5							Ø12 e Ø16	**P92 CG^{R}/$_{L}$ C**		105
	Refrigerazione interna inserto bitagliente	Ø min	Ø20	Ø25	Ø25	Ø25	Ø25	Ø25	Ø44	Ø52			da Ø16 a Ø40	**P92 CG^{R}/$_{L}$**		105

Ø max = diametro massimo troncabile Ø min = diametro minimo lavorabile Ø min - Ø max = intervallo diametri entro i quali effettuare la prima scanalatura

P92 CXCB^{R}/$_{L}$
utensili monoblocco

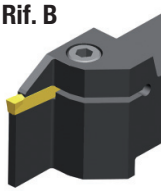
Rif. A

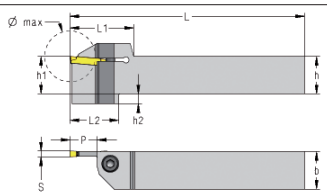
Con rinforzo radiale



Il disegno rappresenta l'utensile sinistro L

Rif. B





Il disegno rappresenta l'utensile sinistro L

S	DESCRIZIONE		STOCK R	STOCK L	Ø max	DIMENSIONI P	h	h1	h2	b	L	L1	L2	Rif.	RICAMBI Vite	Chiave	Coppia
15	P92 CXCB^{R}/$_{L}$	0808 K15 08	●	●	16	8	8	8	4	8	125	19	19	A	TXM 4x12/15	T15F	3.8 Nm
		1010 K15 08	○	○	16	8	10	10	6	10	125	19	19	A	TXM 4x12/15	T15F	3.8 Nm
		1010 K15 14	●	●	28	14	10	10	6	10	125	25	22	A	TXM 4x12/15	T15F	3.8 Nm
		1212 K15 08	○	○	16	8	12	12	4	12	125	19	19	A	TXM 4x12/15	T15F	3.8 Nm
		1212 K15 14	●	●	28	14	12	12	4	12	125	25	22	A	TXM 4x12/15	T15F	3.8 Nm
		1616 K15 08	○	○	16	8	16	16	-	16	125	19	-	A	TXM 4x12/15	T15F	3.8 Nm
		1616 K15 14	●	●	28	14	16	16	-	16	125	25	-	A	TXM 4x12/15	T15F	3.8 Nm
		2020 K15 14	○	○	28	14	20	20	-	25	125	25	-	A	TXM 4x12/15	T15F	3.8 Nm
		2525 M15 14	○	○	28	14	25	25	-	25	150	30	-	A	M 5x16	P4	7 Nm
20÷25	P92 CXCB^{R}/$_{L}$	0808 K20+25 11	○	○	22	11	8	8	4	8	125	19.5	19.5	A	TXM 4x12/15	T15F	3.8 Nm
		1010 K20+25 11	●	●	22	11	10	10	6	10	125	19.5	19.5	A	TXM 4x12/15	T15F	3.8 Nm
		1212 K20+25 11	●	●	22	11	12	12	4	12	125	19.5	19.5	A	TXM 4x12/15	T15F	3.8 Nm
		1212 K20+25 14	●	●	28	14	12	12	4	12	125	25	22	A	TXM 4x12/15	T15F	3.8 Nm
		1616 K20+25 11	●	●	22	11	16	16	-	16	125	19.5	-	A	TXM 4x12/15	T15F	3.8 Nm
		1616 K20+25 17	●	●	34	17	16	16	5	16	125	34	26	A	M 5x16	P4	7 Nm
		2020 K20+25 14	○	○	28	14	20	20	-	20	125	30	-	A	M 5x16	P4	7 Nm
		2020 K20+25 17	●	●	34	17	20	20	-	20	125	34	-	A	M 5x16	P4	7 Nm
		2525 M20+25 14	○	○	28	14	25	25	-	25	150	30	-	A	M 5x16	P4	7 Nm
		2525 M20+25 17	●	●	34	17	25	25	-	25	150	34	-	A	M 5x16	P4	7 Nm
30	P92 CXCB^{R}/$_{L}$	1212 K30 10	●	●	20	10	12	12	5	12	125	21	22	B	M 4x16	P3	5 Nm
		1212 K30 14	○	○	28	14	12	12	5	12	125	34	26	B	M 5x16	P4	7 Nm
		1616 K30 10	●	●	20	10	16	16	5	16	125	28	22	B	M 5x16	P4	7 Nm
		1616 K30 14	○	○	28	14	16	16	5	16	125	34	26	B	M 5x16	P4	7 Nm
		1616 K30 17	●	●	34	17	16	16	5	16	125	37	29	B	M 5x16	P4	7 Nm
		2020 K30 10	●	●	20	10	20	20	5	20	125	30	26	B	M 5x16	P4	7 Nm
		2020 K30 14	●	●	28	14	20	20	5	20	125	34	26	B	M 5x16	P4	7 Nm
		2020 K30 17	●	●	34	17	20	20	5	20	125	37	29	B	M 5x16	P4	7 Nm
		2525 M30 10	●	●	20	10	25	25	-	25	150	30	-	B	M 6x20	P5	14 Nm
		2525 M30 14	●	●	28	14	25	25	-	25	150	34	-	B	M 6x20	P5	14 Nm
		2525 M30 17	●	●	34	17	25	25	-	25	150	37	-	B	M 6x20	P5	14 Nm
35	P92 CXCB^{R}/$_{L}$	2020 K35 17	○	○	34	17	20	20	5	20	125	37	29	B	M 5x16	P4	7 Nm
		2525 M35 17	○	○	34	17	25	25	-	25	150	37	-	B	M 6x20	P5	14 Nm
40	P92 CXCB^{R}/$_{L}$	1212 K40 10	○	○	20	10	12	12	5	12	125	28	22	B	M 4x16	P3	5 Nm
		1212 K40 14	○	○	28	14	12	12	5	12	125	34	26	B	M 5x16	P4	7 Nm
		1616 K40 10	●	●	20	10	16	16	5	16	125	28	22	B	M 5x16	P4	7 Nm
		1616 K40 14	○	○	28	14	16	16	5	16	125	34	26	B	M 5x16	P4	7 Nm
		1616 K40 17	●	●	34	17	16	16	5	16	125	37	29	B	M 5x16	P4	7 Nm
		2020 K40 10	●	●	20	10	20	20	5	20	125	30	26	B	M 5x16	P4	7 Nm
		2020 K40 14	●	●	28	14	20	20	5	20	125	34	26	B	M 5x16	P4	7 Nm
		2020 K40 17	●	●	34	17	20	20	5	20	125	37	29	B	M 5x16	P4	7 Nm
		2525 M40 10	●	●	20	10	25	25	-	25	150	30	-	B	M 6x20	P5	14 Nm
		2525 M40 14	●	●	28	14	25	25	-	25	150	34	-	B	M 6x20	P5	14 Nm
		2525 M40 17	●	●	34	17	25	25	-	25	150	37	-	B	M 6x20	P5	14 Nm
50	P92 CXCB^{R}/$_{L}$	2020 K50 10	●	●	20	10	20	20	5	20	125	34.5	30	B	M 5x16	P4	7 Nm
		2020 K50 20	●	●	40	20	20	20	5	20	125	40	33	B	M 6x20	P5	14 Nm
		2525 M50 10	●	●	20	10	25	25	-	25	150	34.5	-	B	M 6x20	P5	14 Nm
		2525 M50 20	●	●	40	20	25	25	-	25	150	40	-	B	M 6x20	P5	14 Nm
60	P92 CXCB^{R}/$_{L}$	2020 M60 10	●	●	20	10	20	20	5	20	150	38	30	B	M 6x20	P5	14 Nm
		2020 M60 20	●	●	40	20	20	20	5	20	150	43	35	B	M 6x20	P5	14 Nm
		2525 M60 10	●	●	20	10	25	25	-	25	150	38	-	B	M 6x20	P5	14 Nm
		2525 M60 20	●	●	40	20	25	25	-	25	150	40	-	B	M 6x20	P5	14 Nm
		3225 P60 26	○	○	52	26	32	32	-	25	170	45	-	B	M 6x20	P5	14 Nm

Ø max = diametro massimo troncabile

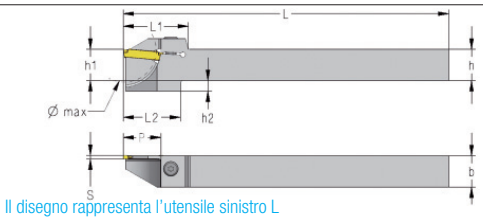
INSERTI p. 64

DATI TECNICI p. 241

P92 CXCB$^{R}/_{L}$
utensili monoblocco

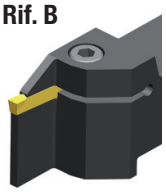
Rif. A

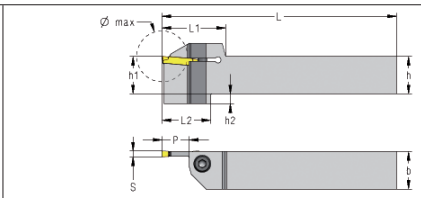
Con rinforzo radiale



Il disegno rappresenta l'utensile sinistro L

Rif. B



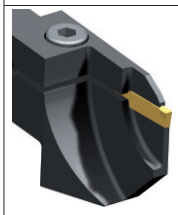


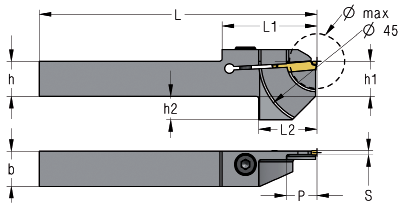
Il disegno rappresenta l'utensile sinistro L

S	DESCRIZIONE		STOCK R	STOCK L	Ø max	DIMENSIONI P	h	h1	h2	b	L	L1	L2	Rif.	RICAMBI Vite	Chiave	Coppia
80	P92 CXCB$^{R}/_{L}$	2020 M80 10	○	○	20	10	20	20	5	20	150	37	28	B	M 6x20	P5	14 Nm
		2020 M80 14	○	○	28	14	20	20	5	20	150	40	31	B	M 6x20	P5	14 Nm
		2020 M80 20	○	○	40	20	20	20	5	20	150	46	37	B	M 8x25	P6	14 Nm
		2525 M80 10	○	○	20	10	25	25	-	25	150	38	-	B	M 6x20	P5	14 Nm
		2525 M80 20	●	●	40	20	25	25	-	25	150	43	-	B	M 8x25	P6	14 Nm
		3225 P80 26	○	○	52	26	32	32	-	25	170	47	-	B	M 8x25	P6	14 Nm
100	P92 CXCB$^{R}/_{L}$	3225 P100 26	●	●	52	26	32	32	-	25	170	47	-	B	M 8x25	P6	14 Nm

Ø max = diametro massimo troncabile

P92 CXCBR TR12
utensili monoblocco con serraggio a vite per macchine TRAUB TR12





S	DESCRIZIONE		STOCK	Ø max	DIMENSIONI P	h	h1	h2	b	L	L1	L2	RICAMBI Vite	Chiave	Coppia
15	P92 CXCBR	1212 K15 10 TR12	○	20	10	12	12	8	12	95	32.5	20	M 4x10	P3	5 Nm

Ø max = diametro massimo troncabile

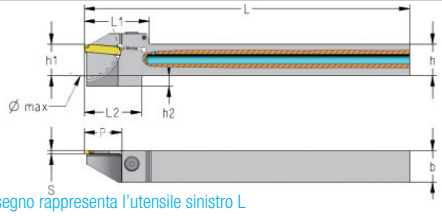
INSERTI p. 64

DATI TECNICI p. 241

P92 CXCB^{R}/$_{L}$ HP
utensili monoblocco con refrigerazione interna

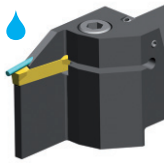
Rif. A

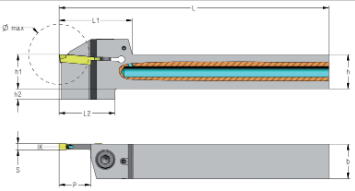
Con rinforzo radiale



Il disegno rappresenta l'utensile sinistro L

Rif. B





Il disegno rappresenta l'utensile sinistro L

S	DESCRIZIONE		STOCK R	STOCK L	Ø max	DIMENSIONI P	h	h1	h2	b	L	L1	L2	Attacco	Rif.	RICAMBI Vite	Chiave	Coppia
20-25	P92 CXCB^{R}/$_{L}$	1212 K20+25 11HP	○	○	22	11	12	12	4	12	125	23	23	Ø4	A	TXM 4x12/15	T15F	3.8 Nm
		1616 K20+25 11HP	○	○	22	11	16	16	-	16	125	23	-	Ø5	A	TXM 4x12/15	T15F	3.8 Nm
		1616 K20+25 17HP	○	○	34	17	16	16	5	16	125	34	26	Ø5	A	M 5x16	P4	7 Nm
		2020 K20+25 17HP	○	○	34	17	20	20	-	20	125	34	-	Ø5	A	M 5x16	P4	7 Nm
	P92 CXCB^{R}/$_{L}$	1212 K20+25 11HP M8X1	○	○	22	11	12	12	4	12	125	23	23	M8x1	A	TXM 4x12/15	T15F	3.8 Nm
		1616 K20+25 11HP M8X1	○	○	22	11	16	16	-	16	125	23	-	M8x1	A	TXM 4x12/15	T15F	3.8 Nm
		1616 K20+25 17HP M8X1	○	○	34	17	16	16	5	16	125	34	26	M8x1	A	M 5x16	P4	7 Nm
		2020 K20+25 17HP M8X1	○	○	34	17	20	20	-	20	125	34	-	M8x1	A	M 5x16	P4	7 Nm
	P92 CXCB^{R}/$_{L}$	1616 K20+25 11HP M10X1	○	○	22	11	16	16	-	16	125	23	-	M10x1	A	TXM 4x12/15	T15F	3.8 Nm
		1616 K20+25 17HP M10X1	○	○	34	17	16	16	5	16	125	34	26	M10x1	A	M 5x16	P4	7 Nm
		2020 K20+25 17HP M10X1	○	○	34	17	20	20	-	20	125	34	-	M10x1	A	M 5x16	P4	7 Nm
	P92 CXCB^{R}/$_{L}$	1616 K20+25 11HP G1/8	○	○	22	11	16	16	-	16	125	23	-	G1/8	A	TXM 4x12/15	T15F	3.8 Nm
		1616 K20+25 17HP G1/8	○	○	34	17	16	16	5	16	125	34	26	G1/8	A	M 5x16	P4	7 Nm
		2020 K20+25 17HP G1/8	○	○	34	17	20	20	-	20	125	34	-	G1/8	A	M 5x16	P4	7 Nm
	P92 CXCB^{R}/$_{L}$	1616 K20+25 11HP N1/8	○	○	22	11	16	16	-	16	125	23	-	1/8NPT	A	TXM 4x12/15	T15F	3.8 Nm
		1616 K20+25 17HP N1/8	○	○	34	17	16	16	5	16	125	34	26	1/8NPT	A	M 5x16	P4	7 Nm
		2020 K20+25 17HP N1/8	○	○	34	17	20	20	-	20	125	34	-	1/8NPT	A	M 5x16	P4	7 Nm
30	P92 CXCB^{R}/$_{L}$	1212 K30 14HP	○	○	28	14	12	12	5	12	125	30	26	Ø4	B	M 4x16	P3	5 Nm
		1616 K30 14HP	○	○	28	14	16	16	5	16	125	34	26	Ø5	B	M 5x16	P4	7 Nm
		1616 K30 17HP	○	○	34	17	16	16	5	16	125	37	29	Ø5	B	M 5x16	P4	7 Nm
		2020 K30 17HP	○	○	34	17	20	20	5	20	125	37	29	Ø5	B	M 5x16	P4	7 Nm
		2525 M30 17HP	○	○	34	17	25	25	-	25	150	37	-	Ø5	B	M 6x20	P5	14 Nm
	P92 CXCB^{R}/$_{L}$	1212 K30 14HP M8X1	○	○	28	14	12	12	5	12	125	30	26	M8x1	B	M 4x16	P3	5 Nm
		1616 K30 14HP M8X1	○	○	28	14	16	16	5	16	125	34	26	M8x1	B	M 5x16	P4	7 Nm
		1616 K30 17HP M8X1	○	○	34	17	16	16	5	16	125	37	29	M8x1	B	M 5x16	P4	7 Nm
		2020 K30 17HP M8X1	○	○	34	17	20	20	5	20	125	37	29	M8x1	B	M 5x16	P4	7 Nm
		2525 M30 17HP M8X1	○	○	34	17	25	25	-	25	150	37	-	M8x1	B	M 6x20	P5	14 Nm
	P92 CXCB^{R}/$_{L}$	1616 K30 14HP M10X1	○	○	28	14	16	16	5	16	125	34	26	M10x1	B	M 5x16	P4	7 Nm
		1616 K30 17HP M10X1	○	○	34	17	16	16	5	16	125	37	29	M10x1	B	M 5x16	P4	7 Nm
		2020 K30 17HP M10X1	○	○	34	17	20	20	5	20	125	37	29	M10x1	B	M 5x16	P4	7 Nm
		2525 M30 17HP M10X1	○	○	34	17	25	25	-	25	150	37	-	M10x1	B	M 6x20	P5	14 Nm
	P92 CXCB^{R}/$_{L}$	1616 K30 14HP G1/8	○	○	28	14	16	16	5	16	125	34	26	G1/8	B	M 5x16	P4	7 Nm
		1616 K30 17HP G1/8	○	○	34	17	16	16	5	16	125	37	29	G1/8	B	M 5x16	P4	7 Nm
		2020 K30 17HP G1/8	○	○	34	17	20	20	5	20	125	37	29	G1/8	B	M 5x16	P4	7 Nm
		2525 M30 17HP G1/8	○	○	34	17	25	25	-	25	150	37	-	G1/8	B	M 6x20	P5	14 Nm
	P92 CXCB^{R}/$_{L}$	1616 K30 14HP N1/8	○	○	28	14	16	16	5	16	125	34	26	1/8NPT	B	M 5x16	P4	7 Nm
		1616 K30 17HP N1/8	○	○	34	17	16	16	5	16	125	37	29	1/8NPT	B	M 5x16	P4	7 Nm
		2020 K30 17HP N1/8	○	○	34	17	20	20	5	20	125	37	29	1/8NPT	B	M 5x16	P4	7 Nm
		2525 M30 17HP N1/8	○	○	34	17	25	25	-	25	150	37	-	1/8NPT	B	M 6x20	P5	14 Nm

Ø max = diametro massimo troncabile

INSERTI p. 64

RACCORDI p. 237

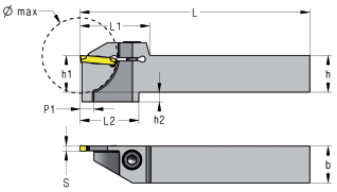
DATI TECNICI p. 241

UTENSILI HP: ATTACCHI LATERALI O SOLUZIONI SPECIALI FORNIBILI A RICHIESTA p. 259

P92 A CXCB^{R}/$_{L}$
utensili monoblocco per sporgenze elevate

Rif. A

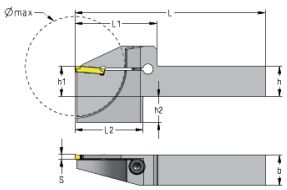
Con rinforzo radiale



Il disegno rappresenta l'utensile sinistro L

Rif. B

Con rinforzo radiale



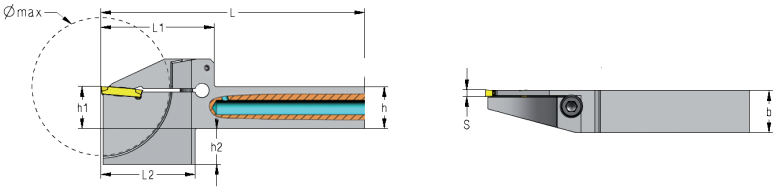
Il disegno rappresenta l'utensile sinistro L

S	DESCRIZIONE		STOCK R	STOCK L	Ø max	DIMENSIONI P1	h	h1	h2	b	L	L1	L2	Rif.	RICAMBI Vite	Chiave	Coppia
30	P92 A CXCB^{R}/$_{L}$	1616 K30 42	●	●	42	7	16	16	5	16	125	39	22	A	M 5x16	P4	7 Nm
		2020 K30 42	●	●	42	7	20	20	5	20	125	39	26	A	M 5x16	P4	7 Nm
		2020 K30 56	●	●	56	20.5	20	20	5	20	125	46	26	A	M 5x16	P4	7 Nm
		2020 K30 65	●	●	65	-	20	20	17	20	125	54	45	B	M 6x25	P5	8 Nm
		2525 M30 42	●	●	42	-	25	25	-	25	150	39	-	A	M 5x16	P4	7 Nm
		2525 M30 56	●	●	56	13.0	25	25	-	25	150	48	-	A	M 5x16	P4	7 Nm
		2525 M30 65	●	●	65	-	25	25	12	25	150	54	45	B	M 6x25	P5	8 Nm
35	P92 A CXCB^{R}/$_{L}$	2020 K35 65	○	○	65	-	20	20	17	20	125	54	45	B	M 6x25	P5	8 Nm
		2525 M35 65	○	○	65	-	25	25	12	25	150	54	45	B	M 6x25	P5	8 Nm
40	P92 A CXCB^{R}/$_{L}$	2020 K40 56	○	○	56	20.5	20	20	5	20	125	46	38	A	M 5x16	P4	7 Nm
		2020 K40 65	○	○	65	-	20	20	17	20	125	54	45	B	M 6x25	P5	8 Nm
		2525 M40 56	●	●	56	13	25	25	-	25	150	46	-	A	M 5x16	P4	7 Nm
		2525 M40 65	●	●	65	-	25	25	12	25	150	54	45	B	M 6x25	P5	8 Nm
50	P92 A CXCB^{R}/$_{L}$	2020 M50 80	○	○	80	-	20	20	17	20	150	62	52	B	M 6x25	P5	8 Nm
		2525 P50 80	○	○	80	-	25	25	12	25	170	62	52	B	M 6x25	P5	8 Nm

Ø max = diametro massimo troncabile

P92 A CXCB^{R}/$_{L}$ HP
utensili monoblocco per sporgenze elevate con refrigerazione interna

Con rinforzo radiale



Il disegno rappresenta l'utensile sinistro L

S	DESCRIZIONE		STOCK R	STOCK L	Ø max	DIMENSIONI h	h1	h2	b	L	L1	L2	Attacco	RICAMBI Vite	Chiave	Coppia
30	P92 A CXCB^{R}/$_{L}$	2020 K30HP	○	○	65	20	20	17	20	125	54	45	Ø5	M 6x25	P5	8 Nm
		2525 M30HP	○	○	65	25	25	12	25	150	54	45	Ø5	M 6x25	P5	8 Nm
	P92 A CXCB^{R}/$_{L}$	2020 K30HP M8X1	○	○	65	20	20	17	20	125	54	45	M8x1	M 6x25	P5	8 Nm
		2525 M30HP M8X1	○	○	65	25	25	12	25	150	54	45	M8x1	M 6x25	P5	8 Nm
	P92 A CXCB^{R}/$_{L}$	2020 K30HP M10X1	○	○	65	20	20	17	20	125	54	45	M10x1	M 6x25	P5	8 Nm
		2525 M30HP M10X1	○	○	65	25	25	12	25	150	54	45	M10x1	M 6x25	P5	8 Nm
	P92 A CXCB^{R}/$_{L}$	2020 K30HP G1/8	○	○	65	20	20	17	20	125	54	45	G1/8	M 6x25	P5	8 Nm
		2525 M30HP G1/8	○	○	65	25	25	12	25	150	54	45	G1/8	M 6x25	P5	8 Nm
	P92 A CXCB^{R}/$_{L}$	2020 K30HP N1/8	○	○	65	20	20	17	20	125	54	45	1/8NPT	M 6x25	P5	8 Nm
		2525 M30HP N1/8	○	○	65	25	25	12	25	150	54	45	1/8NPT	M 6x25	P5	8 Nm
40	P92 A CXCB^{R}/$_{L}$	2020 K40HP	○	○	65	20	20	17	20	125	54	45	Ø5	M 6x25	P5	8 Nm
		2525 M40HP	○	○	65	25	25	12	25	150	54	45	Ø5	M 6x25	P5	8 Nm
	P92 A CXCB^{R}/$_{L}$	2020 K40HP M8X1	○	○	65	20	20	17	20	125	54	45	M8x1	M 6x25	P5	8 Nm
		2525 M40HP M8X1	○	○	65	25	25	12	25	150	54	45	M8x1	M 6x25	P5	8 Nm
	P92 A CXCB^{R}/$_{L}$	2020 K40HP M10X1	○	○	65	20	20	17	20	125	54	45	M10x1	M 6x25	P5	8 Nm
		2525 M40HP M10X1	○	○	65	25	25	12	25	150	54	45	M10x1	M 6x25	P5	8 Nm
	P92 A CXCB^{R}/$_{L}$	2020 K40HP G1/8	○	○	65	20	20	17	20	125	54	45	G1/8	M 6x25	P5	8 Nm
		2525 M40HP G1/8	○	○	65	25	25	12	25	150	54	45	G1/8	M 6x25	P5	8 Nm
	P92 A CXCB^{R}/$_{L}$	2020 K40HP N1/8	○	○	65	20	20	17	20	125	54	45	1/8NPT	M 6x25	P5	8 Nm
		2525 M40HP N1/8	○	○	65	25	25	12	25	150	54	45	1/8NPT	M 6x25	P5	8 Nm

Ø max = diametro massimo troncabile

INSERTI p. 64

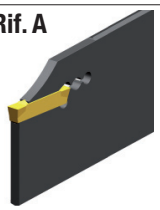
RACCORDI p. 237

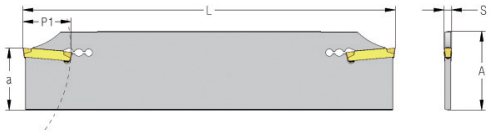
DATI TECNICI p. 241

UTENSILI HP: ATTACCHI LATERALI O SOLUZIONI SPECIALI FORNIBILI A RICHIESTA p. 259

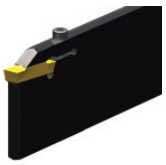
P92 TMS
lame

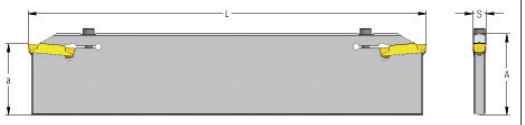
Rif. A





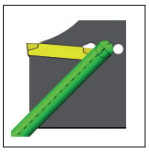
Rif. B





S	DESCRIZIONE		STOCK	Ø max	DIMENSIONI					RICAMBI		
					A	P1	a	L	Rif.	Vite	Chiave	Coppia
20+25	**P92 TMS**	**26 20+25**	●	50	26	18.5	21.4	110	A	-	Nr. 34656	-
		32 20+25	●	50	32	18.5	25	150	A	-	Nr. 34656	-
30	**P92 TMS**	**26 30**	●	70	26	18.5	21.4	110	A	-	Nr. 34656	-
		32 30	●	100	32	18.5	25	150	A	-	Nr. 34656	-
40	**P92 TMS**	**32 40**	●	100	32	18.5	25	150	A	-	Nr. 34656	-
50	**P92 TMS**	**32 50**	○	120	32	23.5	25	150	A	-	Nr. 34656	-
60	**P92 TMS**	**32 60**	○	120	32	23.5	25	150	A	-	Nr. 34656	-
80	**P92 TMS**	**52 80**	○	-	52.6	-	45	250	B	M 4x16	P3	5 Nm
100	**P92 TMS**	**52 100**	○	-	52.6	-	45	250	B	M 4x16	P3	5 Nm

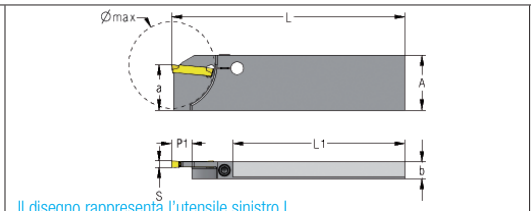
Ø max = diametro massimo troncabile



Rif. A
Per l'inserimento e il rilascio dell'inserto posizionare la chiave come indicato in figura.

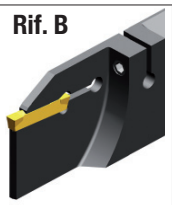
P92 CXCB^{R}/$_{L}$ X
lame rinforzate con attacco a coda di rondine

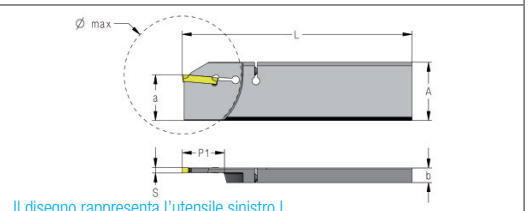
Rif. A



Il disegno rappresenta l'utensile sinistro L

Rif. B

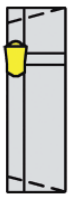




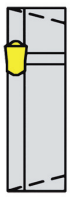
Il disegno rappresenta l'utensile sinistro L

S	DESCRIZIONE		STOCK		Ø max	DIMENSIONI							RICAMBI		
			R	L		A	P1	a	b	L	L1	Rif.	Vite	Chiave	Coppia
30	**P92 CXCB^{R}/$_{L}$**	**2608 X30R**	○	○	42	26	9	21.4	8	110	81.3	A	TXM 4x12/15	T15F	3.8 Nm
		2608 X30L	○	○	42	26	9	21.4	8	110	81.3	A	TXM 4x12/15	T15F	3.8 Nm
	P92 CXCB^{R}/$_{L}$	**3208 X30R 65**	○	○	65	32	22	25	8	126	-	B	M 4x6 DIN 914	P2	3.5 Nm
		3208 X30L 65	○	○	65	32	22	25	8	126	-	B	M 4x6 DIN 914	P2	3.5 Nm

Ø max = diametro massimo troncabile

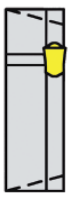


Lama L
Attacco L
es. P92 CXCBL...X30L



Lama L
Attacco R
es. P92 CXCBL...X30R

Lama R
Attacco L
es. P92 CXCBR...X30L



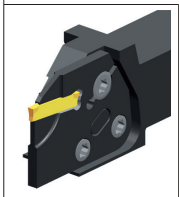
Lama R
Attacco R
es. P92 CXCBR...X30R

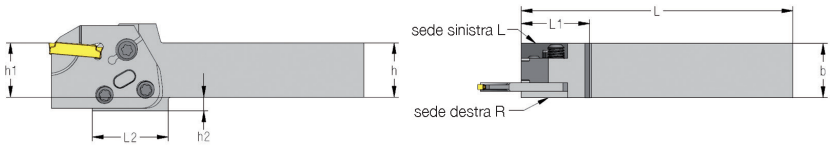
INSERTI p. 64

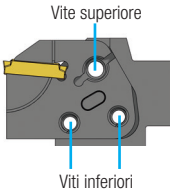
PORTALAME p. 106

DATI TECNICI p. 241

P92 C N
utensili modulari con lame intercambiabili

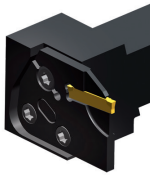


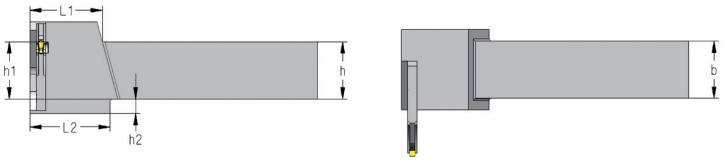




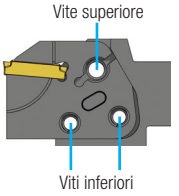
DESCRIZIONE		STOCK	DIMENSIONI							LAME	RICAMBI			
			h	h1	h2	b	L	L1	L2		Vite inferiore	Vite superiore	Chiave	Coppia
P92 C N	**2020 H**	●	20	20	8	20	100	24	20	P92-C e P92-CT	TXM 5x13 20P92C	TXM 6x17 20P92C	T20W	5 Nm
	2525 H	●	25	25	3	25	100	24	20	P92-C e P92-CT	TXM 5x13 20P92C	TXM 6x17 20P92C	T20W	5 Nm

P92 C90$^{R}/_{L}$
utensili modulari con lame intercambiabili, testa angolata a 90°





Il disegno rappresenta l'utensile destro R

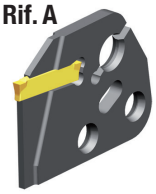


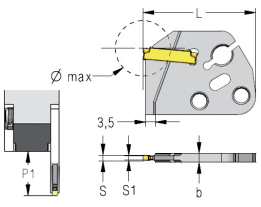
DESCRIZIONE		STOCK		DIMENSIONI							LAME	RICAMBI			
		R	L	h	h1	h2	b	L	L1	L2		Vite inferiore	Vite superiore	Chiave	Coppia
P92 C90$^{R}/_{L}$	**2020 H**	○	○	20	20	8	20	100	20	20	P92-C e P92-CT	TXM 5x13 20P92C	TXM 6x17 20P92C	T20W	5 Nm
	2525 H	○	○	25	25	3	25	100	20	20	P92-C e P92-CT	TXM 5x13 20P92C	TXM 6x17 20P92C	T20W	5 Nm

P92-C
lame rinforzate con bloccaggio a vite

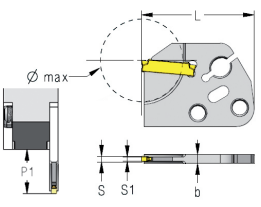
P92-CT
lame con bloccaggio elastico

Rif. A

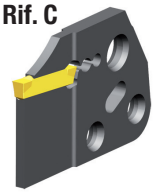


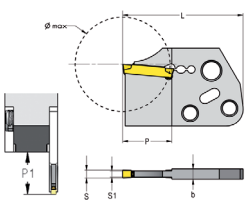


Rif. B



Rif. C





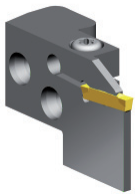
S	DESCRIZIONE		STOCK	Ø max	DIMENSIONI						RICAMBI
					P	P1	S1	b	L	Rif.	Chiave
15	**P92-C N**	**15 16**	○	16	-	12	1	3.2	36.8	A	-
		15 20	○	20	-	16	1	3.2	41	A	-
	P92-CT N	**15 28**	○	28	14	17.5	1	3.2	42.5	C	Nr. 34656
20+25	**P92-C N**	**20+25 20**	○	20	-	16	1.6	3.2	41	A	-
		20+25 32	●	32	-	16	1.6	3.2	41	B	-
	P92-CT N	**20+25 32**	●	32	16	20.8	1.6	3.2	45.8	C	Nr. 34656
30	**P92-CT N**	**30 32**	●	32	16	20.8	2.4	4	45.8	C	Nr. 34656

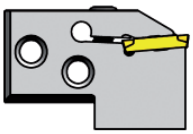
Ø max = diametro massimo troncabile

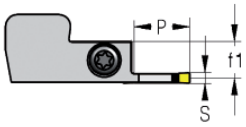
INSERTI p. 64

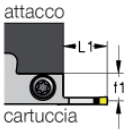
DATI TECNICI p. 241

GLMC^{R}/$_{L}$ P92
cartucce per sistema modulare Griplock Modular









Il disegno rappresenta la cartuccia sinistra L

S	DESCRIZIONE	STOCK R	STOCK L	DIMENSIONI P	DIMENSIONI L1	DIMENSIONI F1	RICAMBI Vite	RICAMBI Chiave	RICAMBI Coppia
20+25	**GLMC^{R}/$_{L}$ P92 20+25 17**	●	●	17	17.5	11.20	LM 6x20	TX25	7 Nm
30	**GLMC^{R}/$_{L}$ P92 30 17**	●	●	17	17.5	10.76	LM 6x20	TX25	7 Nm
40	**GLMC^{R}/$_{L}$ P92 40 17**	●	●	17	17.4	10.26	LM 6x20	TX25	7 Nm
50	**GLMC^{R}/$_{L}$ P92 50 22**	●	●	22	22.5	9.86	LM 6x20	TX25	7 Nm

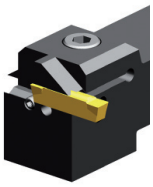
INSERTI p. 64

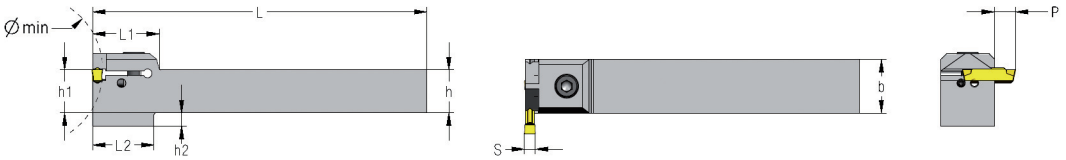
ATTACCHI GLM p. 225

DATI TECNICI p. 241

P92 90 UNI

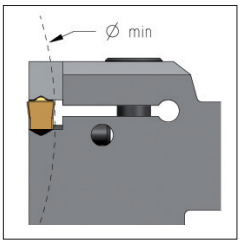
utensili monoblocco senza supporto inserto, testa angolata a 90°

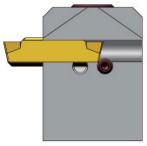




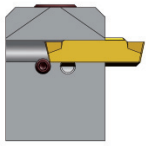
S	DESCRIZIONE		STOCK	Ø min	DIMENSIONE								RICAMBI INDEXAGGIO			RICAMBI SERRAGGIO		
					P	h	h1	h2	b	L	L1	L2	Grano	Chiave	Coppia	Vite	Chiave	Coppia
30	P92 90 CXCBRL	1616 K30 UNI	○	>70	5	16	16	4	16	125	25	26	M 3x12 DIN 913	P1.5	0.8 Nm	M 5x16	P4	7 Nm
		2020 K30 UNI	○	>70	5	20	20	-	20	125	25	-	M 3x12 DIN 913	P1.5	0.8 Nm	M 5x16	P4	7 Nm
		2525 M30 UNI	●	>70	5	25	25	-	25	150	25	-	M 3x12 DIN 913	P1.5	0.8 Nm	M 5x16	P4	7 Nm
40	P92 P 90 CXCBRL	1620 K4 UNI	○	>80	7.5	16	16	5	20	125	25	23	M 3x12 DIN 913	P1.5	0.8 Nm	M 5x16	P4	7 Nm
		2020 K4 UNI	○	>80	7.5	20	20	-	20	125	25	-	M 3x12 DIN 913	P1.5	0.8 Nm	M 5x16	P4	7 Nm
		2525 M4 UNI	○	>80	7.5	25	25	-	25	150	25	-	M 3x12 DIN 913	P1.5	0.8 Nm	M 5x16	P4	7 Nm
50	P92 P 90 CXCBRL	1620 K5+6 UNI	○	>80	9.5	16	16	5	20	125	25	23	M 3x12 DIN 913	P1.5	0.8 Nm	M 5x16	P4	7 Nm
		2020 K5+6 UNI	○	>80	9.5	20	20	-	20	125	25	-	M 3x12 DIN 913	P1.5	0.8 Nm	M 5x16	P4	7 Nm
		2525 M5+6 UNI	○	>80	9.5	25	25	-	25	150	34	-	M 3x12 DIN 913	P1.5	0.8 Nm	M 5x16	P4	7 Nm
60	P92 90 CXCBRL	2020 K60 UNI	○	>120	11	20	20	-	20	125	34	-	M 4x16 DIN 913	P2	1.9 Nm	M 6x16	P5	14 Nm
		2525 M60 UNI	○	>120	11	25	25	-	25	150	34	-	M 4x16 DIN 913	P2	1.9 Nm	M 6x16	P5	14 Nm
		3232 P60 UNI	○	>120	11	32	32	-	32	170	34	-	M 4x16 DIN 913	P2	1.9 Nm	M 6x16	P5	14 Nm
80	P92 90 CXCBRL	2020 K80 UNI	○	>120	11	20	20	5	20	125	40	-	M 5x20 DIN 913	P2.5	4 Nm	M 8x25	P6	14 Nm
		2525 M80 UNI	○	>120	11	25	25	-	25	150	40	-	M 5x20 DIN 913	P2.5	4 Nm	M 8x25	P6	14 Nm
		3232 P80 UNI	○	>120	11	32	32	-	32	170	40	-	M 5x20 DIN 913	P2.5	4 Nm	M 8x25	P6	14 Nm

Ø min = diametro minimo di entrata per la scanalatura frontale





Posizionamento sinistro L



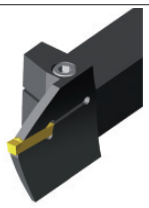
Posizionamento destro R

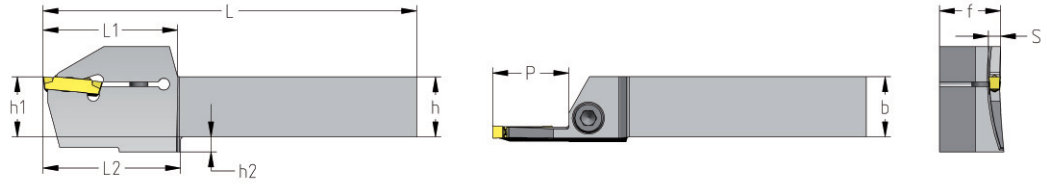
A seconda del posizionamento del grano l'utensile risulta essere destro o sinistro.

INSERTI p. 64

DATI TECNICI p. 241

P92 2 CXCB$^{R}/_{L}$
utensili monoblocco

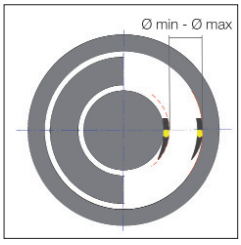




Il disegno rappresenta l'utensile sinistro L

S	DESCRIZIONE		STOCK R	STOCK L	Ø min	Ø max	DIMENSIONI P	h	h1	h2	b	f	L	L1	L2	RICAMBI Vite	Chiave	Coppia
30	P92 2 CXCB$^{R}/_{L}$	2020 K 30 25	●	●	25	30	15	20	20	-	20	20.5	125	35	-	M 6x20	P5	14 Nm
		2020 K 30 30	●	●	30	38	15	20	20	-	20	20.5	125	35	-	M 6x20	P5	14 Nm
		2020 K 30 38	●	●	38	48	15	20	20	-	20	20.5	125	35	-	M 6x20	P5	14 Nm
		2020 K 30 48	●	●	48	60	15	20	20	-	20	20.5	125	35	-	M 6x20	P5	14 Nm
		2020 K 30 60	●	●	60	75	22	20	20	-	20	20.5	125	43	-	M 6x20	P5	14 Nm
		2020 K 30 75	●	●	75	100	25	20	20	-	20	20.5	125	45	-	M 6x20	P5	14 Nm
		2020 K 30 100	●	●	100	200	25	20	20	-	20	20.5	125	45	-	M 6x20	P5	14 Nm
	P92 2 CXCB$^{R}/_{L}$	2525 M 30 25	●	●	25	30	15	25	25	-	25	25.5	150	35	-	M 6x20	P5	14 Nm
		2525 M 30 30	●	●	30	38	15	25	25	-	25	25.5	150	35	-	M 6x20	P5	14 Nm
		2525 M 30 38	●	●	38	48	15	25	25	-	25	25.5	150	35	-	M 6x20	P5	14 Nm
		2525 M 30 48	●	●	48	60	15	25	25	-	25	25.5	150	35	-	M 6x20	P5	14 Nm
		2525 M 30 60	●	●	60	75	22	25	25	-	25	25.5	150	43	-	M 6x20	P5	14 Nm
		2525 M 30 75	●	●	75	100	25	25	25	-	25	25.5	150	45	-	M 6x20	P5	14 Nm
		2525 M 30 100	●	●	100	200	25	25	25	-	25	25.5	150	45	-	M 6x20	P5	14 Nm
40	P92 2 CXCB$^{R}/_{L}$	2020 K 40 34	●	●	34	40	20	20	20	-	20	20.5	125	41	-	M 6x20	P5	14 Nm
		2020 K 40 40	●	●	40	48	25	20	20	-	20	20.5	125	45	-	M 6x20	P5	14 Nm
		2020 K 40 48	●	●	48	60	25	20	20	-	20	20.5	125	45	-	M 6x20	P5	14 Nm
		2020 K 40 60	●	●	60	75	25	20	20	-	20	20.5	125	45	-	M 6x20	P5	14 Nm
		2020 K 40 75	●	●	75	150	25	20	20	-	20	20.5	125	45	-	M 6x20	P5	14 Nm
		2020 K 40 150	●	●	150	450	25	20	20	5	20	20.5	125	45	46	M 6x20	P5	14 Nm
	P92 2 CXCB$^{R}/_{L}$	2525 M 40 34	●	●	34	40	20	25	25	-	25	25.5	150	41	-	M 6x20	P5	14 Nm
		2525 M 40 40	●	●	40	48	25	25	25	-	25	25.5	150	45	-	M 6x20	P5	14 Nm
		2525 M 40 48	●	●	48	60	25	25	25	-	25	25.5	150	45	-	M 6x20	P5	14 Nm
		2525 M 40 60	●	●	60	75	25	25	25	-	25	25.5	150	45	-	M 6x20	P5	14 Nm
		2525 M 40 75	●	●	75	150	25	25	25	-	25	25.5	150	45	-	M 6x20	P5	14 Nm
		2525 M 40 150	●	●	150	450	25	25	25	-	25	25.5	150	45	-	M 6x20	P5	14 Nm
		2525 M 40 450	●	●	450	∞	25	25	25	5	25	25.5	150	45	46	M 6x20	P5	14 Nm
50	P92 2 CXCB$^{R}/_{L}$	2020 K 50 42	●	●	42	55	25	20	20	-	20	20.5	125	45	-	M 6x20	P5	14 Nm
		2020 K 50 55	●	●	55	75	25	20	20	-	20	20.5	125	45	-	M 6x20	P5	14 Nm
		2020 K 50 75	●	●	75	130	28	20	20	3	20	20.5	125	48	49	M 6x20	P5	14 Nm
	P92 2 CXCB$^{R}/_{L}$	2525 M 50 42	●	●	42	55	25	25	25	-	25	25.5	150	45	-	M 6x20	P5	14 Nm
		2525 M 50 55	●	●	55	75	25	25	25	-	25	25.5	150	45	-	M 6x20	P5	14 Nm
		2525 M 50 75	●	●	75	130	32	25	25	-	25	25.5	150	52	-	M 6x20	P5	14 Nm
		2525 M 50 75A	●	●	75	130	40	25	25	-	25	25.5	150	60	-	M 6x20	P5	14 Nm
		2525 M 50 130	●	●	130	200	32	25	25	5	25	25.5	150	52	53	M 6x20	P5	14 Nm
		2525 M 50 130A	●	●	130	200	40	25	25	5	25	25.5	150	60	61	M 6x20	P5	14 Nm
		2525 M 50 200	●	●	200	450	32	25	25	5	25	25.5	150	52	53	M 6x20	P5	14 Nm
		2525 M 50 200A	●	●	200	450	45	25	25	5	25	25.5	150	65	66	M 6x20	P5	14 Nm
		2525 M 50 450	●	●	450	∞	32	25	25	5	25	25.5	150	52	53	M 6x20	P5	14 Nm
		2525 M 50 450A	●	●	450	∞	45	25	25	5	25	25.5	150	65	66	M 6x20	P5	14 Nm

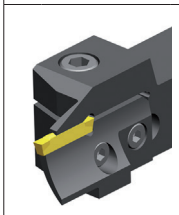
Ø min - Ø max = intervallo diametri entro i quali effettuare la prima scanalatura

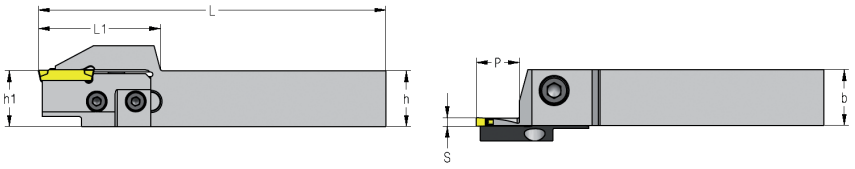


INSERTI p. 64

DATI TECNICI p. 241

P92 2 CXC$^{R}/_{L}$ D
utensili modulari con cartucce intercambiabili

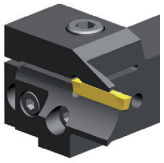


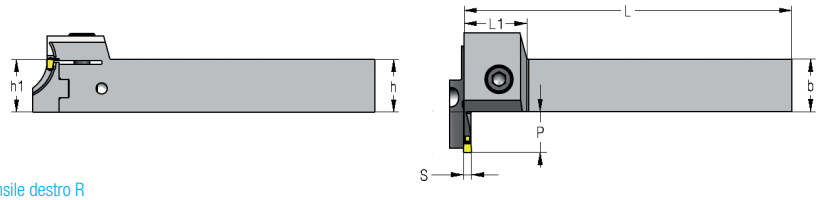


Il disegno rappresenta l'utensile sinistro L

S	DESCRIZIONE		STOCK R	STOCK L	DIMENSIONI P	h	h1	b	L	L1	RICAMBI FISSAGGIO CARTUCCIA Vite	Chiave	Coppia	RICAMBI FISSAGGIO INSERTO Vite	Chiave	Coppia
30	P92 2 CXC$^{R}/_{L}$D	2020 K 30	●	●	15	20	20	20	125	44	M 4x16	P3	5 Nm	M 6x20	P5	14 Nm
		2525 M 30	●	●	15	25	25	25	150	44	M 4x16	P3	5 Nm	M 6x20	P5	14 Nm
40	P92 2 CXC$^{R}/_{L}$D	2020 K 40	●	●	15	20	20	20	125	44	M 4x16	P3	5 Nm	M 6x20	P5	14 Nm
		2525 M 40	●	●	15	25	25	25	150	44	M 4x16	P3	5 Nm	M 6x20	P5	14 Nm

P92 90 CXC$^{R}/_{L}$ D
utensili modulari con cartucce intercambiabili, testa angolata a 90°



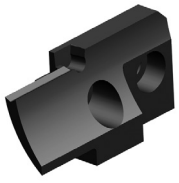


Il disegno rappresenta l'utensile destro R

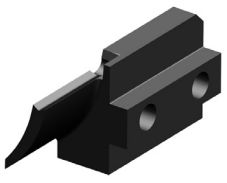
S	DESCRIZIONE		STOCK R	STOCK L	DIMENSIONI P	h	h1	b	L	L1	RICAMBI FISSAGGIO CARTUCCIA Vite	Chiave	Coppia	RICAMBI FISSAGGIO INSERTO Vite	Chiave	Coppia
30	P92 90 CXC$^{R}/_{L}$D	2020 K 30	●	●	15	20	20	20	125	44	M 4x16	P3	5 Nm	M 6x20	P5	14 Nm
		2525 M30	●	●	15	25	25	25	150	44	M 4x16	P3	5 Nm	M 6x20	P5	14 Nm
40	P92 90 CXC$^{R}/_{L}$D	2020 K 40	●	●	15	20	20	20	125	44	M 4x16	P3	5 Nm	M 6x20	P5	14 Nm
		2525 M 40	●	●	15	25	25	25	150	44	M 4x16	P3	5 Nm	M 6x20	P5	14 Nm

C92$^{R}/_{L}$ D
cartucce intercambiabili

Cartucce L con utensili L
Cartucce R con utensili R



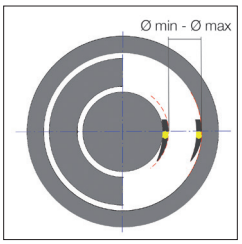
Cartuccia sinistra L



Cartuccia destra R

S	DESCRIZIONE		STOCK R	STOCK L	Ø min	Ø max
30	C92 $^{R}/_{L}$D	2530 30	●	●	25	30
		3035 30	●	●	30	35
		3542 30	●	●	35	42
		4250 30	●	●	42	50
		5058 30	●	●	50	58
		5866 30	●	●	58	66
		6675 30	●	●	66	75
		75100 30	●	●	75	100
		100200 30	●	●	100	200
		200300 30	●	●	200	300
40	C92 $^{R}/_{L}$D	4254 40	●	●	42	54
		5466 40	●	●	54	66
		6680 40	●	●	66	80
		80100 40	●	●	80	100
		100200 40	●	●	100	200
		200300 40	●	●	200	300

Ø min - Ø max = intervallo diametri entro i quali effettuare la prima scanalatura



INSERTI p. 64

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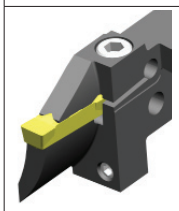
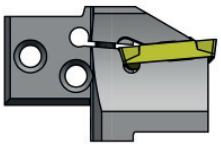
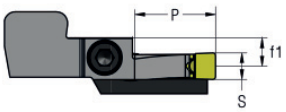
GLMC$^{R}/_{L}$ P92 2
cartucce per sistema modulare Griplock Modular





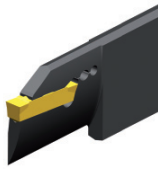


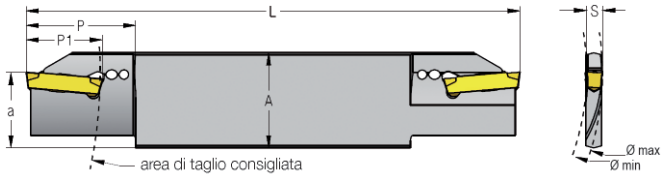
Il disegno rappresenta la cartuccia destra R

S	DESCRIZIONE		STOCK R	STOCK L	Ø min	Ømax	DIMENSIONI P	DIMENSIONI L1	DIMENSIONI f1	RICAMBI Vite	RICAMBI Chiave	RICAMBI Coppia
60	**GLMC$^{R}/_{L}$ P92 2**	**60 40**	●	●	40	70	20.5	29.5	9.5	M 6x20	P5	14 Nm
		60 58	●	●	58	100	20.5	29.5	9.5	M 6x20	P5	14 Nm
		60 88	●	●	88	180	20.5	29.5	9.5	M 6x20	P5	14 Nm
		60 168	●	●	168	400	20.5	29.5	9.5	M 6x20	P5	14 Nm
		60 220	●	●	220	∞	20.5	29.5	9.5	M 6x20	P5	14 Nm
80	**GLMC$^{R}/_{L}$ P92 2**	**80 50**	●	●	50	64	25.5	27.5	8.6	M 6x20	P5	14 Nm
		80 63	●	●	63	82	25.5	27.5	8.6	M 6x20	P5	14 Nm
		80 80	●	●	80	115	25.5	27.5	8.6	M 6x20	P5	14 Nm
		80 105	●	●	105	160	25.5	27.5	8.6	M 6x20	P5	14 Nm
		80 155	●	●	155	510	25.5	27.5	8.6	M 6x20	P5	14 Nm

Ø min - Ø max = intervallo diametri entro i quali effettuare la prima scanalatura

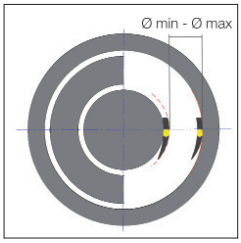
P92 2 TMS
lame





S	DESCRIZIONE		STOCK	Ø min	Ø max	DIMENSIONI A	DIMENSIONI P	DIMENSIONI P1	DIMENSIONI a	DIMENSIONI L	RICAMBI Chiave
40	**P92 2 TMS**	**32 4 85 R**	●	85	160	32	32	18.5	25	160	Nr. 34656
		32 4 140 R	●	140	260	32	32	18.5	25	160	Nr. 34656
		32 4 240 R	●	240	∞	32	32	18.5	25	160	Nr. 34656
50	**P92 2 TMS**	**32 5 85 R**	●	85	160	32	35	23.5	25	160	Nr. 34656
		32 5 140 R	●	140	260	32	35	23.5	25	160	Nr. 34656
		32 5 240 R	●	240	∞	32	35	23.5	25	160	Nr. 34656

Ø min - Ø max = intervallo diametri entro i quali effettuare la prima scanalatura



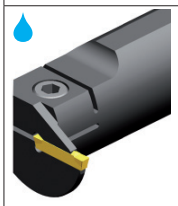
INSERTI p. 64

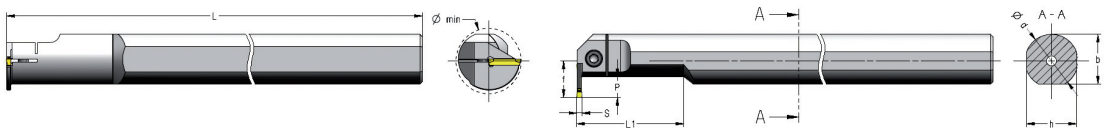
ATTACCHI GLM p. 225

PORTALAME p. 106

DATI TECNICI p. 241

P92 CG$^{R}/_{L}$
bareni in acciaio con refrigerazione interna



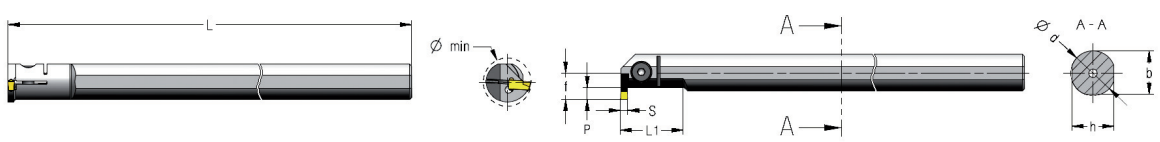


Il disegno rappresenta l'utensile destro R

S	DESCRIZIONE		STOCK R	STOCK L	Ø min	DIMENSIONI P	Ø d	h	b	f	L	L1	RICAMBI Vite	Chiave	Coppia
15	P92 CG$^{R}/_{L}$	0016 P15	○	○	20	7	16	15	15.5	11	170	26	M 4x8 DIN 7984	P3	5 Nm
		0020 R15	○	○	25	7	20	18	18.5	13	200	40	M 5x12	P4	7 Nm
20+25	P92 CG$^{R}/_{L}$	0020 R20+25	●	●	25	7	20	18	18.5	13	200	40	M 5x12	P4	7 Nm
		0025 R20+25	●	●	32	10	25	23	23	17	200	50	M 6x16	P5	14 Nm
		0032 S20+25	●	●	40	12	32	30	30	22	250	64	M 6x16	P5	14 Nm
30	P92 CG$^{R}/_{L}$	0020 R30	●	●	25	7	20	18	18.5	13	200	40	M 5x12	P4	7 Nm
		0025 R30	●	●	32	10	25	23	23	17	200	50	M 6x16	P5	14 Nm
		0032 S30	●	●	40	12	32	30	30	22	250	64	M 6x16	P5	14 Nm
		0040 S30	●	●	52	16	40	38	38	30	250	80	M 6x20	P5	14 Nm
35	P92 CG$^{R}/_{L}$	0020 R35	○	○	25	7	20	18	18.5	13	200	40	M 5x12	P4	7 Nm
		0025 R35	○	○	32	10	25	23	23	17	200	50	M 6x16	P5	14 Nm
		0032 S35	○	○	40	12	32	30	30	22	250	64	M 6x16	P5	14 Nm
40	P92 CG$^{R}/_{L}$	0020 R40	●	●	25	7	20	18	18.5	13	200	40	M 5x12	P4	7 Nm
		0025 R40	●	●	32	10	25	23	23	17	200	50	M 6x16	P5	14 Nm
		0032 S40	●	●	40	12	32	30	30	22	250	64	M 6x16	P5	14 Nm
		0040 T40	●	●	52	16	40	38	38	30	300	80	M 6x20	P5	14 Nm
50	P92 CG$^{R}/_{L}$	0032 S50	●	●	44	16	32	30	30	26	250	64	M 6x16	P5	14 Nm
		0040 T50	●	●	52	16	40	38	38	30	300	80	M 6x20	P5	14 Nm
60	P92 CG$^{R}/_{L}$	0040 T60	○	○	52	16	40	38	38	30	300	80	M 6x20	P5	14 Nm

Ø min = diametro minimo lavorabile

P92 CG$^{R}/_{L}$ C
bareni in acciaio con refrigerazione interna per inserti monotagliente



Il disegno rappresenta l'utensile destro R

S	DESCRIZIONE		STOCK R	STOCK L	Ø min	Ø min*	DIMENSIONI P	P*	d	h	b	f	L	L1	RICAMBI Vite	Chiave	Coppia
30C	P92 CG$^{R}/_{L}$	0012 M30C	●	●	15.5	18	3	5.5	12	11	-	9	150	22	M 4x8 DIN 7984	P3	5 Nm
		0016 P30C	●	●	20	22.5	4.5	7	16	15	15.5	11	170	16	M 5x10 DIN 7984	P4	7 Nm

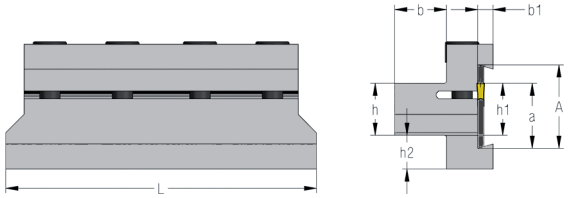
Ø min = diametro minimo lavorabile
* valori relativi all'utilizzo dell'inserto MAX

INSERTI

p. 64

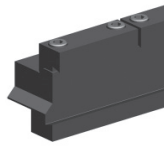
DATI TECNICI
p. 241

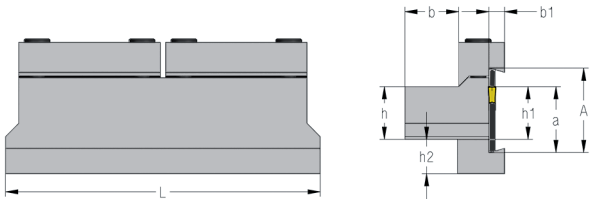
TS
portalame monoblocco



A	DESCRIZIONE		STOCK	DIMENSIONI								RICAMBI		
				a	h	h1	h2	B	b	b1	L	Vite	Chiave	Coppia
26	TS	26 16	○	21.4	16	16	3	34	16	5	90	M 8x25	P6	14 Nm
		26 20	●	21.4	20	20	9	38	20	5	90	M 8x25	P6	14 Nm
32	TS	32 20	●	25	20	20	13	38	20	6	120	M 8x25	P6	14 Nm
		32 25	●	25	25	25	8	38	20	6	120	M 8x25	P6	14 Nm
		32 32	●	25	32	32	1	44	25	6	120	M 8x25	P6	14 Nm

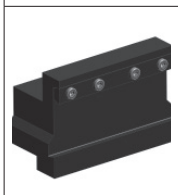
KL
portalame con cunei smontabili

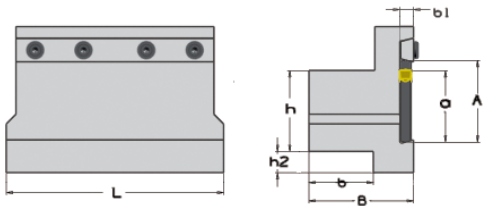




A	DESCRIZIONE		STOCK	DIMENSIONI								RICAMBI			
				a	h	h1	h2	B	b	b1	L	Vite	Cuneo	Chiave	Coppia
26	KL	26 16	●	21.4	16	16	13	34	16	5	90	M 6x20	26 L	P5	14 Nm
		26 20	●	21.4	20	20	9	38	20	5	90	M 6x20	26 L	P5	14 Nm
32	KL	32 20	●	25	20	20	13	38	20	6	120	M 6x20	32 L	P5	14 Nm
		32 25	●	25	25	25	8	38	20	6	120	M 6x20	32 L	P5	14 Nm

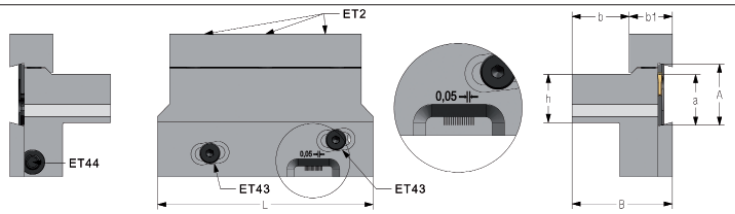
KL 52
portalame monoblocco





A	DESCRIZIONE		STOCK	DIMENSIONI								RICAMBI			
				a	h	h1	h2	B	b	b1	L	Vite	Cuneo	Chiave	Coppia
52.6	KL	52 40	○	45	40	90	25	60	35	8.5	135	M6x20	52 L	P5	14 Nm
		52 50	○	45	50	90	15	63	38	8.5	135	M6x20	52 L	P5	14 Nm

KLV
portalame con altezza lama regolabile



A	DESCRIZIONE		STOCK	DIMENSIONI						RICAMBI									
				a	h	B	b	b1	L	Vite ET2	Chiave	Coppia	Vite ET43	Chiave	Coppia	Vite ET44	Chiave	Coppia	Piastra
26	**KLV**	**26 20**	○	21.4	20	42	24	6	90	M 6x20	P5	14 Nm	M 5x16 DIN7984	P4	7 Nm	M 5x0.5WN	P3	3 Nm	-
32	**KLV**	**32 20**	○	25	20	42	24	6	120	M 6x20	P5	14 Nm	M 5x16 DIN7984	P4	7 Nm	M 5x0.5WN	P3	3 Nm	-
		32 25	○	25	20	42	24	6	120	M 6x20	P5	14 Nm	M 5x16 DIN7984	P4	7 Nm	M 5x0.5WN	P3	3 Nm	KH54556