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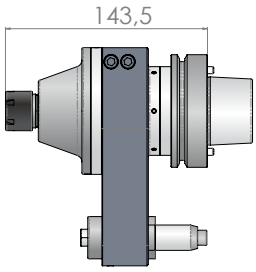


LAVORAZIONE / *APPLICATION*

Foratura profonda
Deep drilling

TIPO DI TESTA / TYPE OF HEAD

High speed coolant inducer

MATERIALE / *MATERIAL*

Alluminio

Aluminum

PINZA / CUTTER: **ER 20 (1 - 13mm)**

LAVORAZIONE / *APPLICATION*

Foratura e svasatura su superfici a profilo variabile
Drilling and countersinking on uneven surfaces

TIPO DI TESTA / TYPE OF HEAD

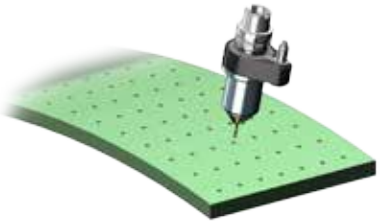
Svasatore / Rivetting holder

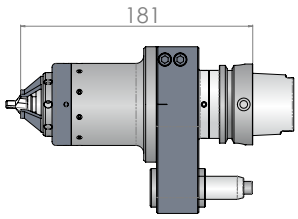
MATERIALE / *MATERIAL*

Titanio / leghe di Alluminio (2024 - 7075)

Titanium / Aluminum alloy (2024 - 7075)

UTENSILE / CUTTER: **MAX. 15mm**





LAVORAZIONE / *APPLICATION*

Foratura e fresatura in piccoli spazi
Drilling and milling in reduced spaces

TIPO DI TESTA / TYPE OF HEAD

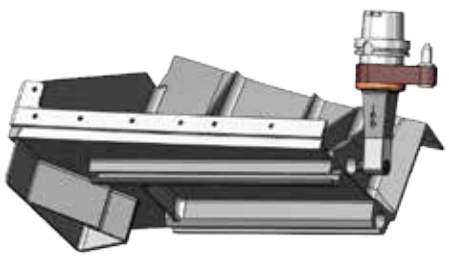
T90cn-0,4

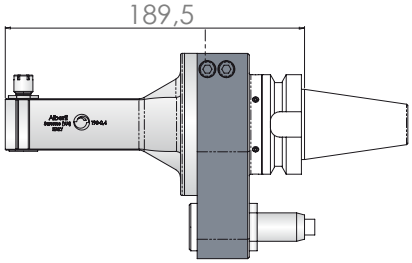
MATERIALE / *MATERIAL*

Titanio / leghe di Alluminio (2024 - 7075)

Titanium / Aluminum alloy (2024 - 7075)

PINZA / COLLET: **ER 8 (1 - 5mm)**





LAVORAZIONE / *APPLICATION*

Fori pilot adiacenti a pareti
Pilot holes close to surface rim

TIPO DI TESTA / TYPE OF HEAD

Turboflex Index + IC 300

Ove possibile l'asse C del mandrino macchina puo' ruotare in automatico l'utensile posizionandolo all'angolo desiderato

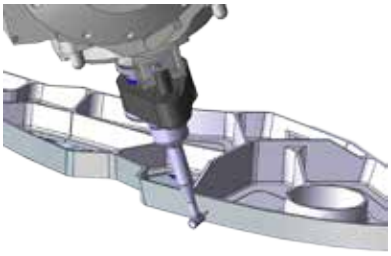
Where possible the C axys of the machine can rotate and automaticatilly position the cutter at the required angle

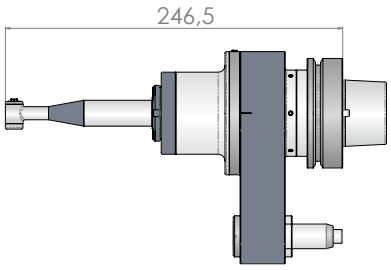
MATERIALE / *MATERIAL*

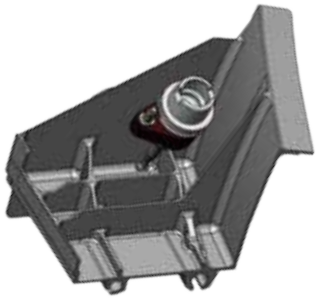
Titanio / leghe di Alluminio (2024 - 7075)

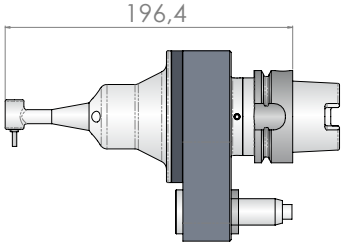
Titanium / Aluminum alloy (2024 - 7075)

PINZA / CUTTER: **MAX. 3mm**









LAVORAZIONE / *APPLICATION*

Esecuzione di piccole cave e contornitura
Small grooves and contouring

TIPO DI TESTA / TYPE OF HEAD

Slimline + IC 300

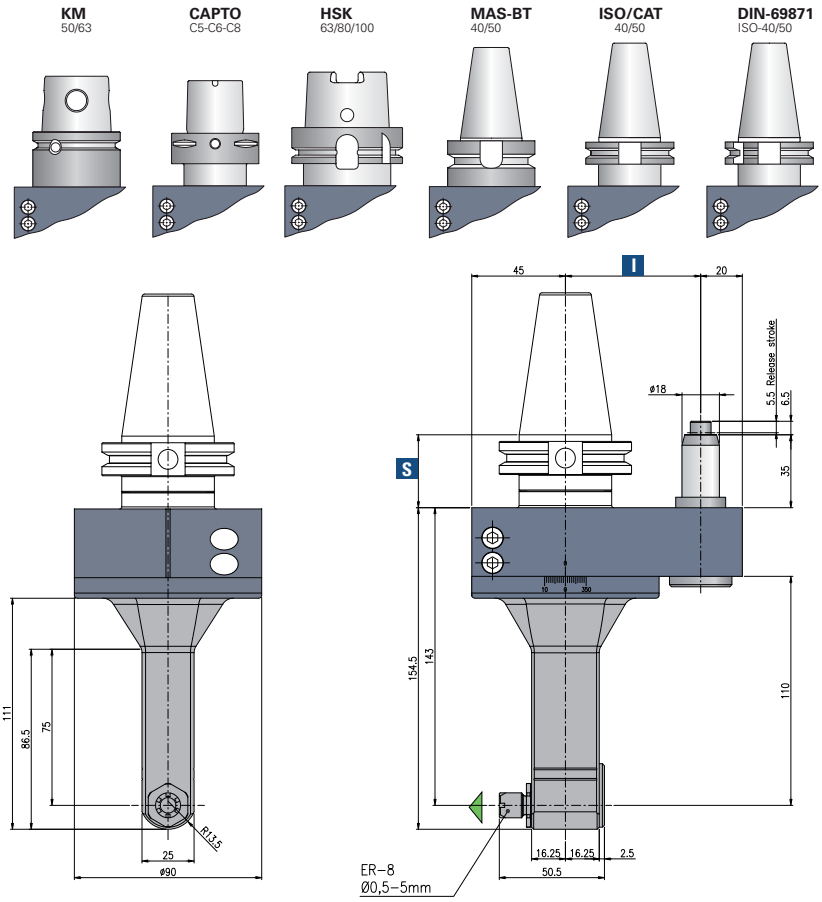
MATERIALE / *MATERIAL*

Fibre di carbonio / leghe di Alluminio (2024 - 7075)

Carbon fibre / Aluminum alloy (2024 - 7075)

PINZA / CUTTER: **MAX. 3mm**

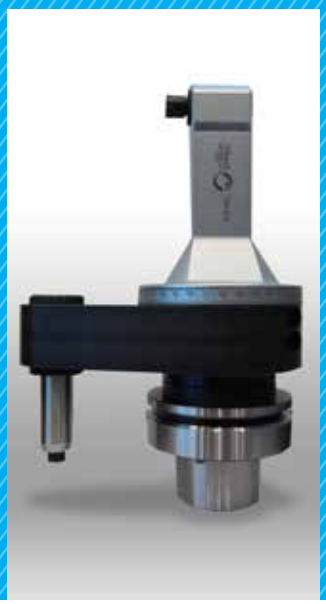
T90cn-0,4



Direction of rotation same as machine spindle / *senso di rotazione uguale al mandrino / Drehrichtung gleich wie Antriebsspindel*

Shank Cono Aufnahme	Size Grandezza Größe	I	S
ISO/CAT	40	65-80-(110*)	35
	50	80-(110*)	35
MAS-BT	40	65-80-(110*)	35
	50	80-(110*)	41
HSK	63-80	65-80-(110*)	42
	100	80-(110*)	45
CAPTO	C5-C6	65-80-(110*)	38
	C8	80-110	40
KM	50-63	65-80-(110*)	40

** Optional*



Technical Data / *Dati Tecnici / Technische Daten*		**T90cn - 04**
Rt / *Rt / Rt*		1:1
RPM max. / *Max. velocità / Drehzahl max.*	min^{-1}	6000
Max. axial load / *Max. carico assiale / Max. Axialbelastung*	N	38
Torque / *Momento torcente / Drehmoment*	Nm	2
Weight / *Peso / Gewicht*	kg	4
Collet / *Pinza / Spannzange*	mm	ER 8 (0,5 - 5mm)

STANDARD EQUIPMENT INCLUDES:

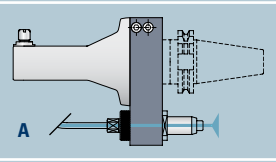
- Special bag - wrenches
- Grease tube - Instruction book

- Bauletto - Ghiera ER chiavi
di servizio - Tubetto di grasso - Libro istruzioni

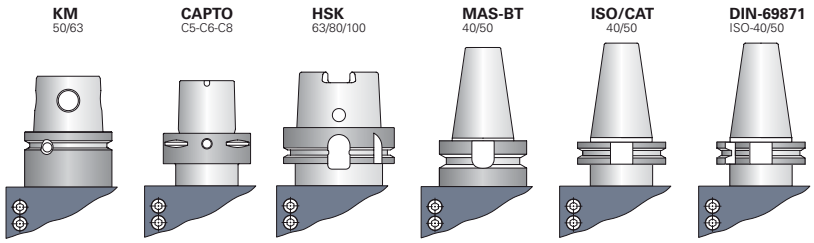
- Spezialtasche - Schraubenschlüssel
- Tube mit Fett - Bedienungsanleitung

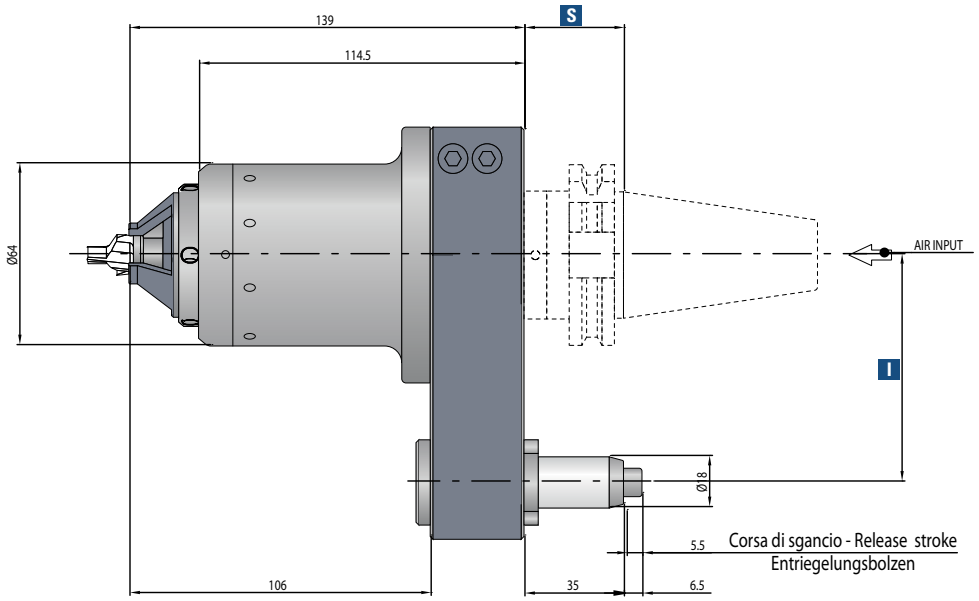
Option / *Opzione / Option*

A Coolant through pin / *Adduzione refrigerante attraverso il perno / Kühlmittelzufuhr durch Bolzen*	bar/psi max.	15/180
High speed optional RPM max. / *Opzione alta velocità RPM max. / Optionale Drehzahl max.*	min^{-1}	10.000
Internal air pressure / *Predisposizione pressurizzazione aria / Sperrluft*	bar	0,2/0,3 max.
Weldon output / *Weldon / Weldon-Aufnahme*	ø	6mm



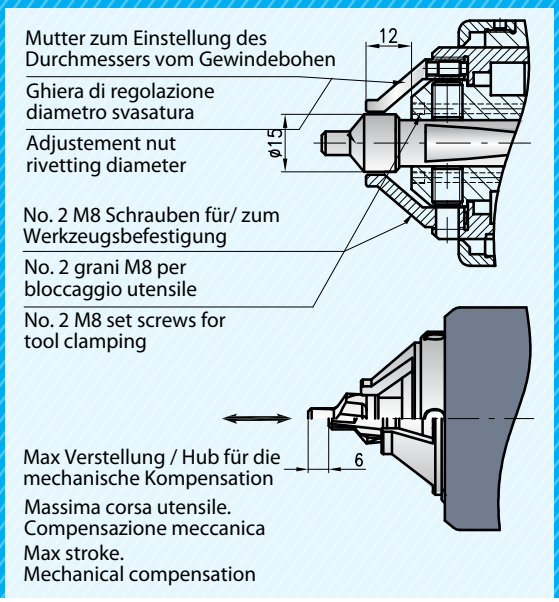
Svasatore / Rivetting holder

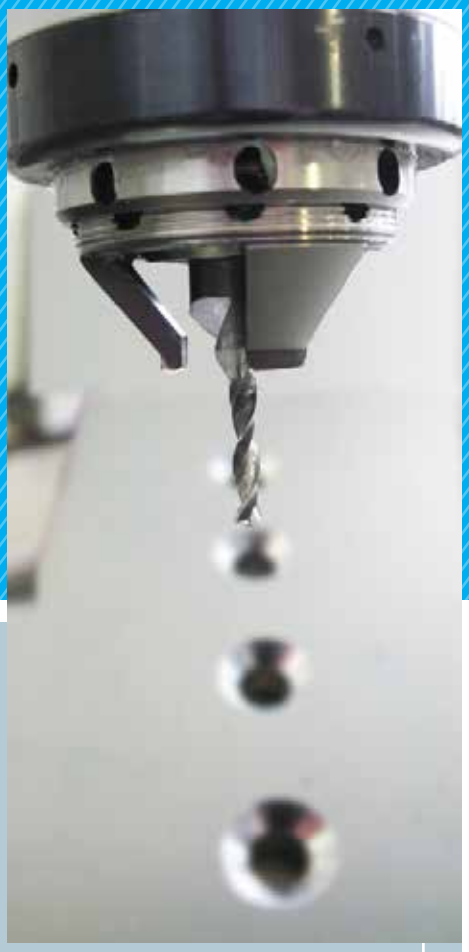




Shank Cono Aufnahme	Size Grandezza Größe	I	S
ISO/CAT	30	65-80	35
	40	65-80-(110*)	35
	50	80-110	35
MAS-BT	30	65-80	30
	40	65-80-(110*)	35
	50	80-110	41
HSK	63-80	65-80-(110*)	42
	100	80-110	45
CAPTO	C5-C6	65-80-(110*)	38
	C8	80-110	40
KM	50-63	65-80-(110*)	40

** Optional*





Technical Data / *Dati Tecnici / Technische Daten*		**Svasatore / Rivetting holder**
Rt / *Rt / Rt*		1:1
RPM max. / *Max. velocità / Drehzahl max.*	min^{-1}	8000
Max. axial load / *Max. carico assiale / Max. Axialbelastung*	N	480
Weight / *Peso / Gewicht*	kg	5
Collet / *Pinza / Spannzange* *WELDON D=12*	mm	MAX. 12mm

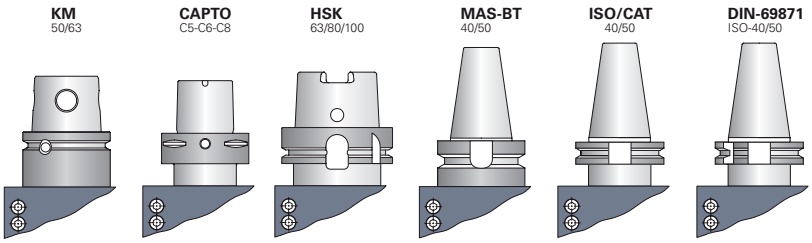
Option / *Opzione / Option*

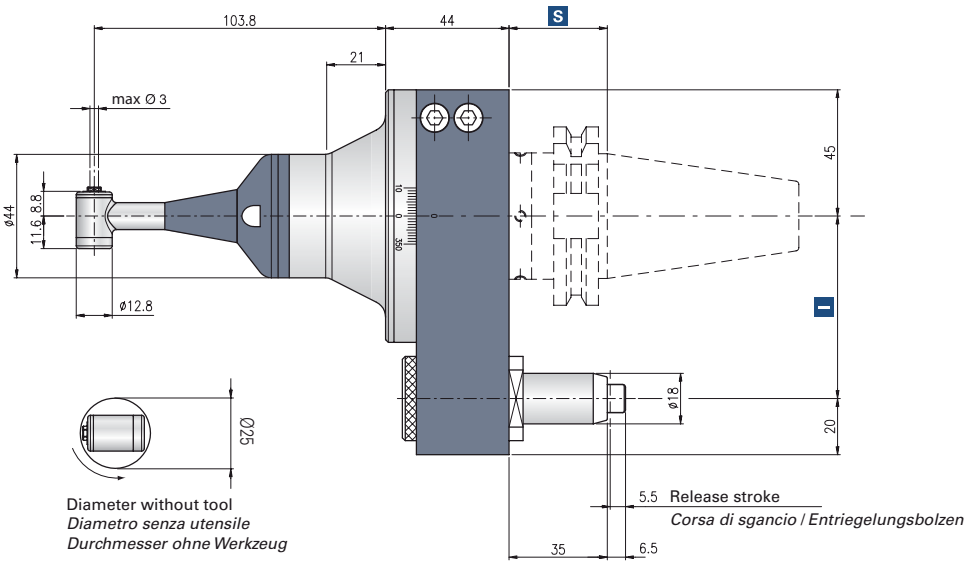
A	Coolant through pin / *Adduzione refrigerante attraverso il perno / Kühlmittelzufuhr durch Bolzen*	bar/psi max.	15/175

STANDARD EQUIPMENT INCLUDES:

- Special bag - Wrenches
- Instruction book
- Bauletto - Ghiera ER chiavi di servizio - Libro istruzioni
- Spezialtasche - Schraubenschlüssel
- Bedienungsanleitung

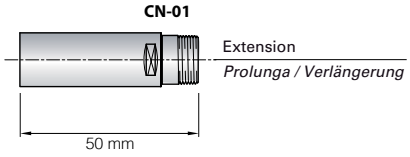
Slimline + IC 300 Spindle driven head

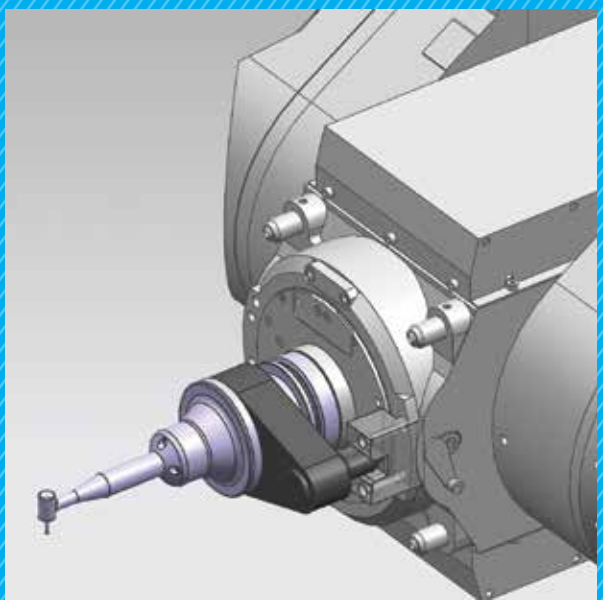




Shank Cono Aufnahme	Size Grandezza Größe	I	S
ISO/CAT	30	65-80	35
	40	65-80-(110*)	35
	50	80-110	35
MAS-BT	30	65-80	30
	40	65-80-(110*)	35
	50	80-110	41
HSK	63-80	65-80-(110*)	42
	100	80-110	45
CAPTO	C5-C6	65-80-(110*)	38
	C8	80-110	40
KM	50-63	65-80-(110*)	40

** Optional*

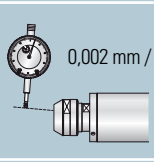




Technical Data / Dati Tecnici / Technische Daten		**IC-300***
RPM max. / Max. Velocità / Drehzahl max.	min $^{-1}$	20.000
Rt. reduction / Rt. in riduzione / Rt. Reduktion		3/4
Collet / Pinze / Spannzange	mm	CHC Ø3
Type Spindle / Tipo di manipolo / Spindeltyp	W	IC-300
Rotation / Rotazione / Rotation		right/destra/recht, left/sinistra/links
Weight / Peso / Gewicht	Kg	3

Accessories / Accessori / Zubehör		**IC-300**
Collet / Pinze / Spannzange	mm	CHC: Ø0,1, Ø3 every 0,1 and Ø2,35, Ø3,175
Retaining block / Tassello di ritegno / Stop block	mm	Ø18
Extension / Prolunga / Verlängerung		CN-01

Spindle accuracy /
Precisione del Mandrino /
Spindelpräzision

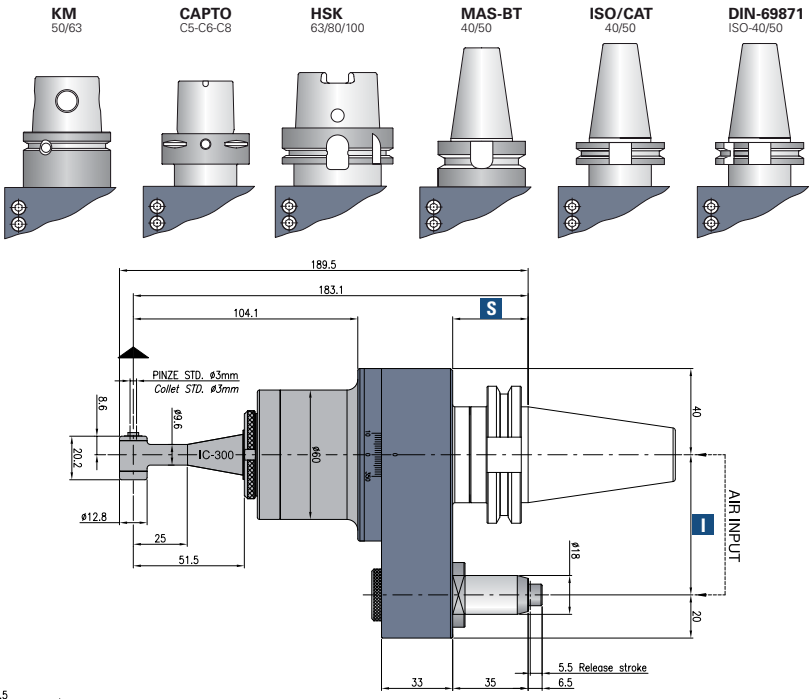


0,002 mm / 0,00008 inch.

STANDARD EQUIPMENT INCLUDES: NAKANISHI Kit / Angle head / Collet / Wrenches / Instruction book

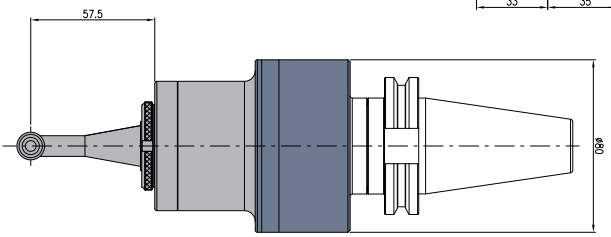
Alberti Aerospace

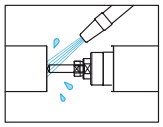
Turboflex Index 30.000 RPM Air driven



Shank Cono Aufnahme	Size Grandezza Größe	I	S
ISO/CAT	30	65-80	35
	40	65-80-(110*)	35
	50	80-110	35
MAS-BT	30	65-80	30
	40	65-80-(110*)	35
	50	80-110	41
HSK	63-80	65-80-(110*)	42
	100	80-110	45
CAPTO	C5-C6	65-80-(110*)	38
	C8	80-110	40
KM	50-63	65-80-(110*)	40

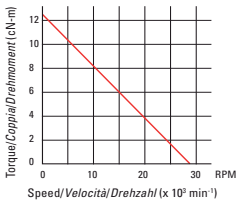
** Optional*

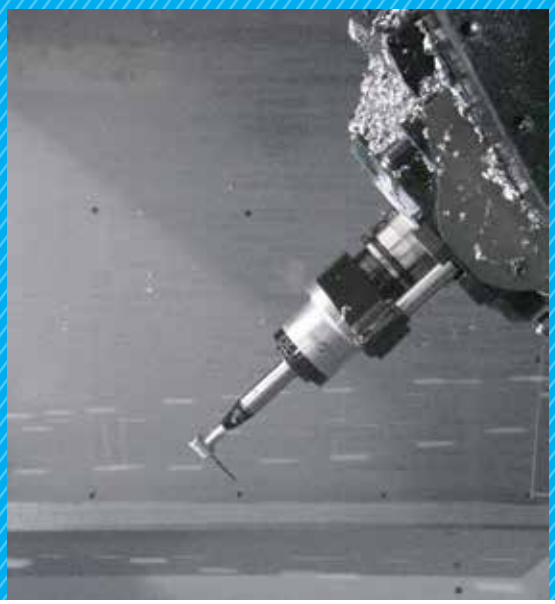


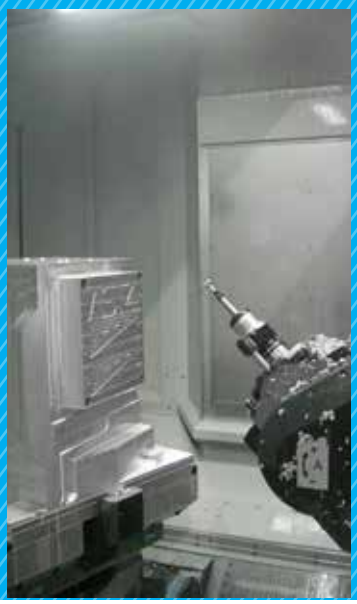


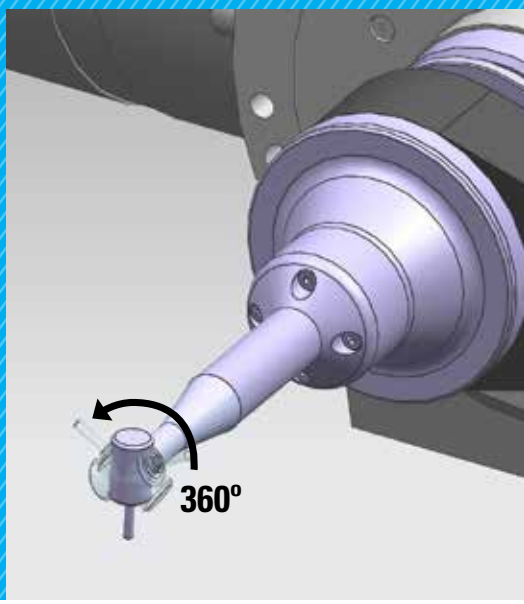
It is possible to use coolant during the machining. */ Consentito usare refrigerante durante la lavorazione. Kühlmitteleinsatz möglich.*

Torque-Speed Chart motor
Diagramma Coppia-Velocità motore
Drehmoment-Drehzahl Diagramm Motor







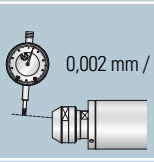


Technical Data / Dati Tecnici / Technische Daten		**IC 300**
RPM max. / Max. Velocità / Drehzahl max.	min $^{-1}$	30.000
Type motor / Tipo di motore / Motortyp		AM-310
Collet / Pinze / Spannzange	mm	CHC Ø 3
Power / Potenza / Leistung	W	108
Rotation / Rotazione / Rotation		AM-310 RA Dx-Right, AM-310 LA Sx-Left
Air pressure / Pressione aria / Luftdrunk	bar	max. 6 (max. 90 Psi)
Air consumpion / Consumo aria / Luftverbrauch	Nl/min	226
Type Spindle / Tipo di manipolo / Spindeltyp		IC 300
Output RPM / N° Giri in uscita / Drehzahlausgang	min $^{-1}$	22.000
Rt. reduction / Rt. in riduzione / Rt. Reduktion		3/4
Weight / Peso / Gewicht	Kg	4

STANDARD EQUIPMENT INCLUDES: NAKANISHI Kit / Angle head / Collet / Wrenches / Instruction book

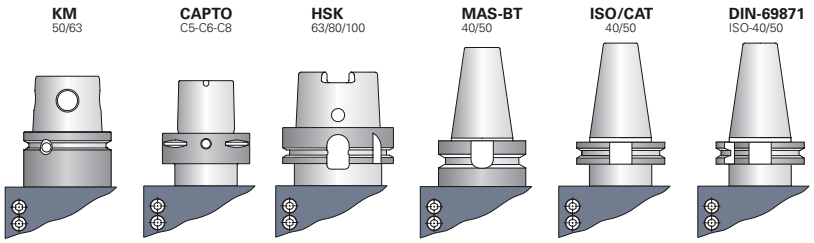
Accessories / Accessori / Zubehör		**IC 300**
Collet / Pinze / Spannzange	mm	CHC: Ø0,8, Ø3 every 0,1 and Ø2,35, Ø3,175
Air line kit / Filtro regolatore aria / Luftsystem		AL-0304
Retaining block / Tassello di ritegno / Stop block	mm	Ø18

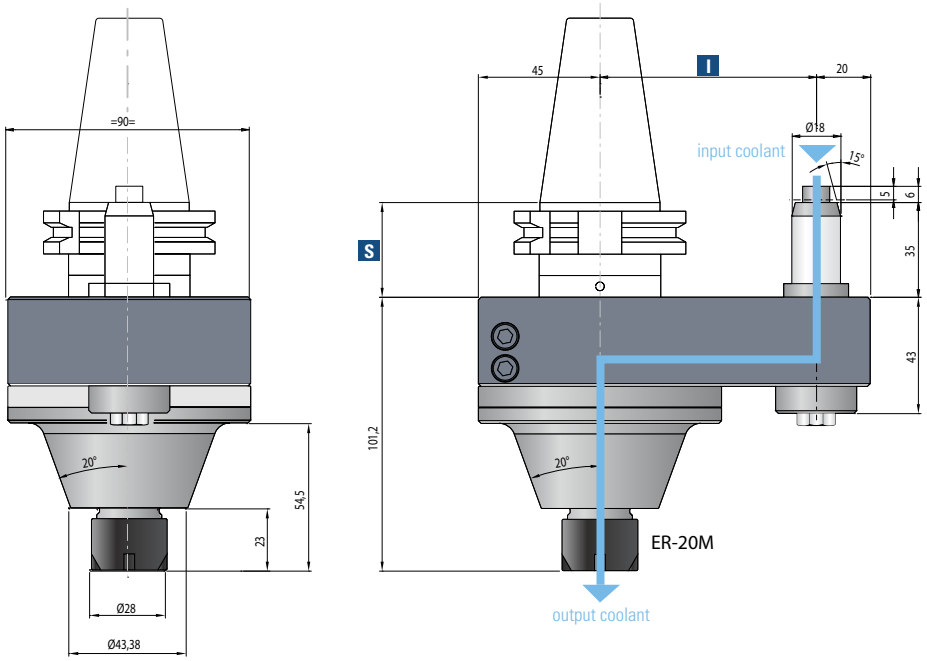
Spindle accuracy / Precisione del Mandrino / Spindelpräzision



0,002 mm / 0,00008 inch.

High speed coolant inducer





Shank Cono Aufnahme	Size Grandezza Größe	I	S
ISO/CAT	30	65-80	35
	40	65-80-(110*)	35
	50	80-110	35
MAS-BT	30	65-80	30
	40	65-80-(110*)	35
	50	80-110	41
HSK	63-80	65-80-(110*)	42
	100	80-110	45
CAPTO	C5-C6	65-80-(110*)	38
	C8	80-110	40
KM	50-63	65-80-(110*)	40

** Optional*

Technical Data / Dati Tecnici / Technische Daten		**High speed coolant inducer**
Rt / *Rt* / *Rt*		1:1
RPM max. / *Max. velocità* / *Drehzahl max.*	min^{-1}	12.000
Weight / *Peso* / *Gewicht*	kg	4
Collet / *Pinza* / *Spannzange*	mm	ER 20 (1 - 13mm)

STANDARD EQUIPMENT INCLUDES:

- Special bag - Retaining block - wrenches
- Grease tube - Instruction book

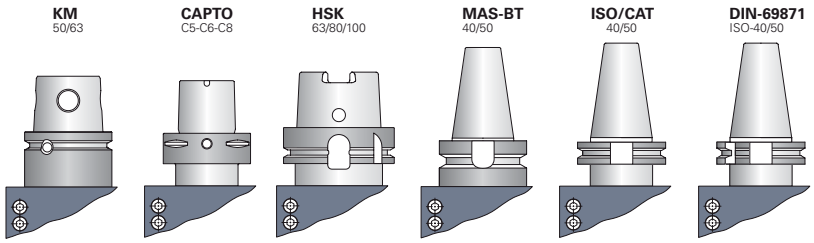
- Bauletto - Tassello di ritegno - Ghiera ER chiavi di servizio - Tubetto di grasso - Libro istruzioni

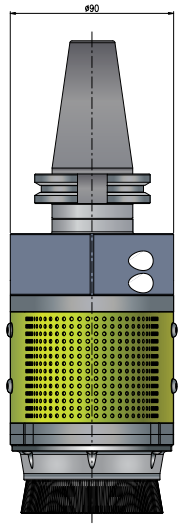
- Spezialtasche - Stop block - Schraubenschlüssel
- Tube mit Fett - Bedienungsanleitung

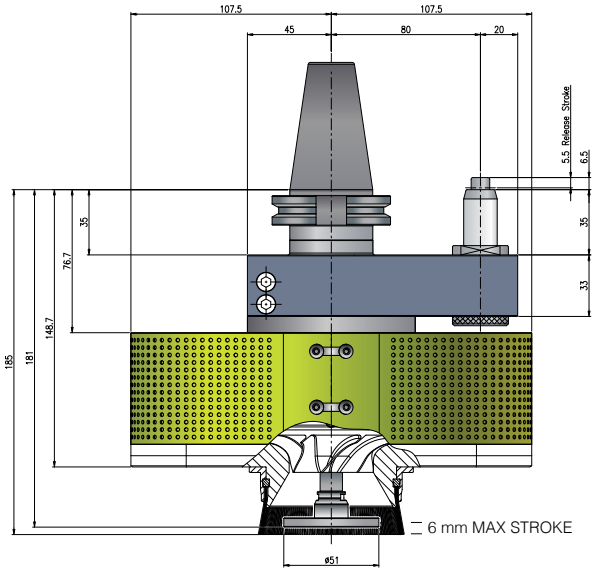
Option / *Opzione* / *Option*

A Coolant through pin / *Adduzione refrigerante attraverso il perno* / *Kühlmittelzufuhr durch Bolzen*	bar/psi max.	15/175

Sanding and vacuum holder







Shank Cono Aufnahme	Size Grandezza Größe	I	S
ISO/CAT	30	65-80	35
	40	65-80-(110*)	35
	50	80-110	35
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HSK	63-80	65-80-(110*)	42
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	C8	80-110	40
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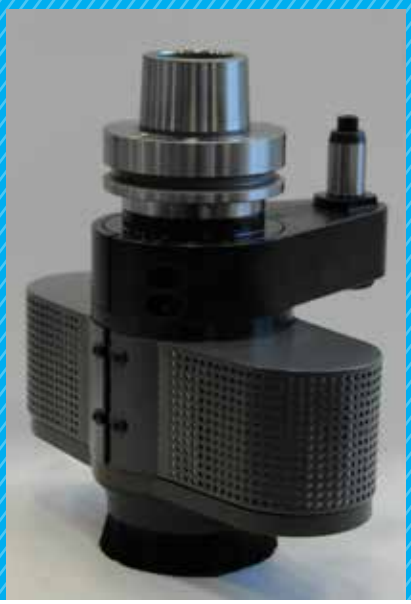
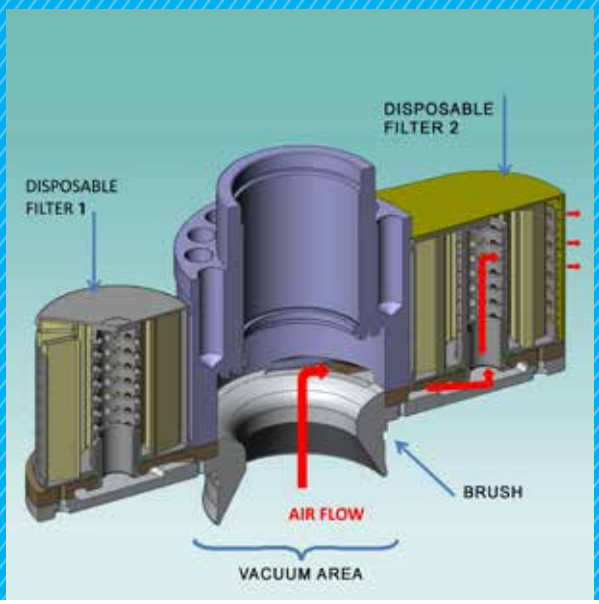
** Optional*





Technical Data / Dati Tecnici / Technische Daten		Sanding and vacuum holder
Rt / *Rt* / *Rt*		1:1
RPM max. / *Max. velocità* / *Drehzahl max.*	min^{-1}	12.000
Weight / *Peso* / *Gewicht*	kg	4
Collet / *Pinza* / *Spannzange*	mm	ER 20 (1 - 13mm)

STANDARD EQUIPMENT INCLUDES: NAKANISHI Kit / Angle head / Collet / Wrenches / Instruction book

STANDARD EQUIPMENT INCLUDES:

- Special bag - Retaining block - Wrenches
- Instruction book

- Bauletto - Tassello di ritegno - Ghiera ER chiavi di servizio - Libro istruzioni

- Spezialtasche - Stop block - Schraubenschlüssel
- Bedienungsanleitung

Option / *Opzione* / *Option*

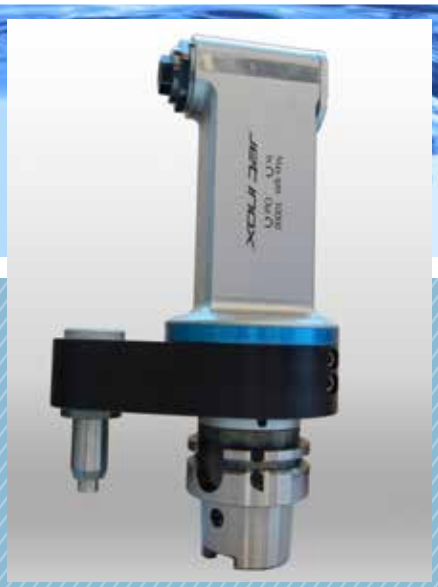
A Coolant through pin / *Adduzione refrigerante attraverso il perno* / *Kühlmittelzufuhr durch Bolzen*	bar/psi max.	10/50

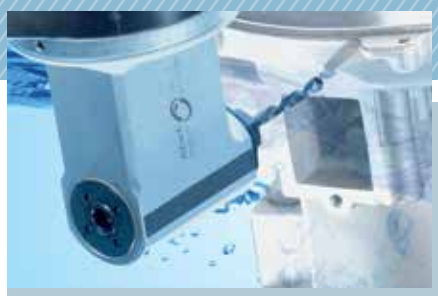
ALBERTI & WATERJET TECHNOLOGY

Abrasive waterjet cutting technology dates back in the early 80s and has been widely employed by the aerospace industry due to growing use of materials such as titanium, carbon fibers and composites.
Among the parts made (cut) using this technology are structural and nacelle components, custom control panels, struts, seats, shim shock and the rough trimming of turbine blades for jet engines.
Alberti studied a line of angle heads dedicated for waterjet machines called JET INOX which features STAINLESS STEEL components and high pressure coolant through the shank.

La tecnologia a taglio ad acqua Waterjet nasce negli anni 80 ed e' stata ampiamente utilizzata anche nel settore aeronautico grazie all'importante impiego di materiali quali titanio, compositi e fibre di carbonio.
Tra i componenti realizzati con taglio ad acqua annoveriamo pannelli di controllo, fusoliere, parti strutturali, nacelle, sedili, rivestimenti della cabina di pilotaggio e sgrossatura di palette di turbine.
Alberti ha studiato una linea di teste angolari denominata JET INOX adatte ad essere montate su macchine waterjet che presentano diversi componenti interni completamente realizzati in acciaio inossidabile e con possibilita' di refrigerazione interna dal cono.

Das Abrasiv-Wasserstrahlschneiden wurde in den frühen 80iger Jahren geboren, jedoch erst neulich wieder entdeckt von der Luftfahrtindustrie, um den gewachsenen Ansprüchen des Material und den zu fertigenden Stückzahlen gerecht zu werden. So wie zum Beispiel für: Titan, CFK (Kohlenstofffaserverstärkter Kunststoff) und Kompositmateralien/werkstoffen.
Unter den wichtigsten, mit dieser Technologie geschnittenen Teilen, befinden sich Werkstücke für verschiedene Bereiche wie zum Beispiel: strukturelle Triebswerkgondel (Baugruppe des Antriebsystems für Flugzeuge), benutzerdefinierte Kontrollpanelle, Rumpfteile, Streben, Sitze, Verkleidung von Steuerungskabinen und Rohteile für die Turbinenschaufeln für das Düsentriebwerk.
Alberti hat eine Sonderlinie von Winkelköpfen mit dem Namen "JET INOX" entwickelt, die auf Wasserstrahlschneidmaschinen angebracht werden können um rostfreie Komponenten zu fertigen, welche auch mit innerer Hochdruck-Kühlmittelzufuhr durch die Abtriebs-Spindel ausgerüstet sind.





1) Stainless steel components
Componenti in acciaio inox
Rostfreie Zubehörteile

2) Parts with special corrosion proof surface treatment
Componenti con rivestimenti superficiali anti corrosione
Zubehörteile mit korrosionsfester Behandlung

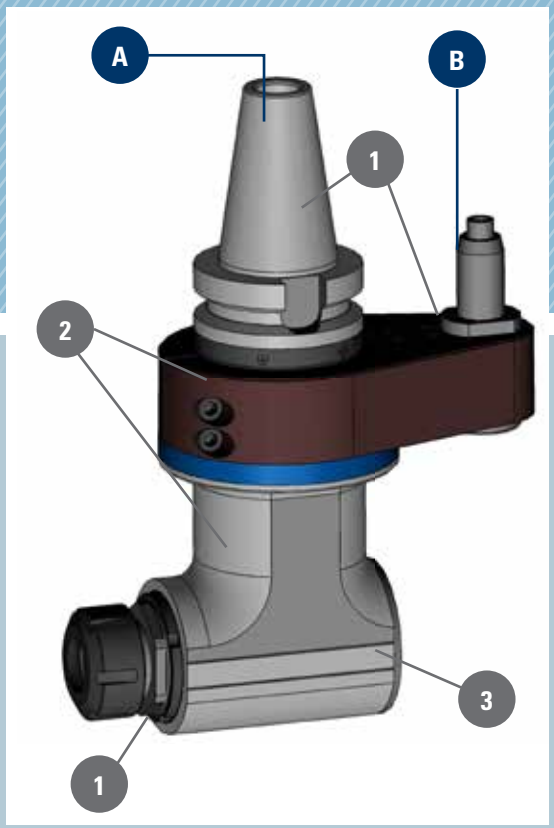
3) Cover for submerged machining
Flangia per lavorazioni in immersione
Schutz für Bearbeitungenn im Wasser

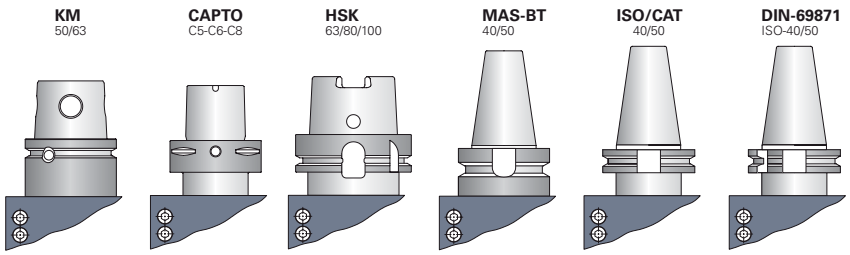
Optional

A) High pressure internal coolant
Refrigerante interno alta pressione
Hochdrückkühlmittelzuführ durch die Spindel

B) Air purge through the pin
Presurizzazione attraverso il perno
Sperrluft durch Referenzbohrung

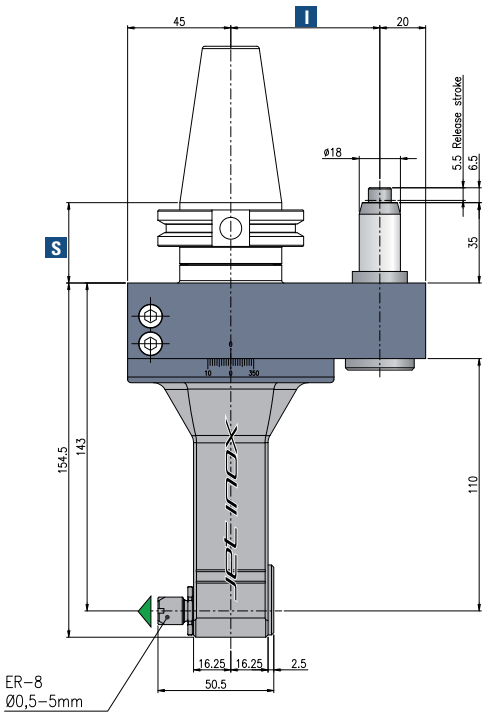
* Different dimensions
Misure differenti
Unterschiedlichen Maßen möglich



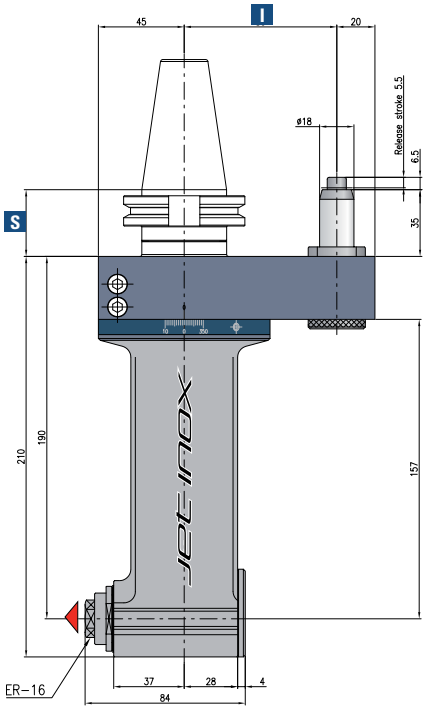


Non interchangeable input drive shank
Coni di attacco non intercambiabili
Nicht wechselbare Aufnahme

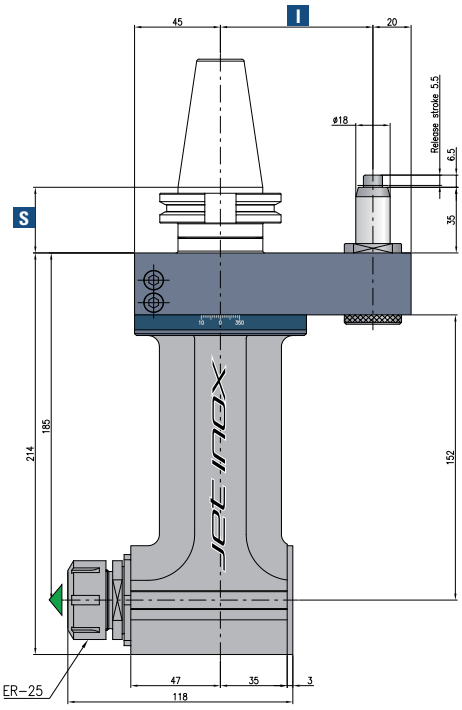
T90cn-0,4 Jet Inox



T90cn-1,5 Jet Inox



T90cn-2,5 Jet Inox



Direction of rotation same as machine spindle / *senso di rotazione uguale al mandrino / Drehrichtung gleich wie Antriebsspindel*
Direction of rotation opposite to machine spindle / *senso di rotazione contrario al mandrino / Drehrichtung entgegen Antriebsspindel*

Technical Data / *Dati Tecnici / Technische Daten*		**T90cn-0,4**
Rt / *Rt / Rt*		1:1
RPM max. / *Max. velocità / Drehzahl max.*	min^{-1}	6.000
Max. axial load / *Max. carico assiale / Max. Axialbelastung*	N	38
Torque / *Momento torcente / Drehmoment*	Nm	2
Weight / *Peso / Gewicht*	kg	4
Collet / *Pinza / Spannzange*		ER-8 ø 0,5/5 mm

Technical Data / *Dati Tecnici / Technische Daten*		**T90cn-1,5**
Rt / *Rt / Rt*		1:1
RPM max. / *Max. velocità / Drehzahl max.*	min^{-1}	6.000
Max. axial load / *Max. carico assiale / Max. Axialbelastung*	N	250
Torque / *Momento torcente / Drehmoment*	Nm	7
Weight / *Peso / Gewicht*	kg	4,3
Collet / *Pinza / Spannzange*		ER-16 ø 1/10 mm

Technical Data / *Dati Tecnici / Technische Daten*		**T90cn-2,5**
Rt / *Rt / Rt*		1:1
RPM max. / *Max. velocità / Drehzahl max.*	min^{-1}	4.000
Max. axial load / *Max. carico assiale / Max. Axialbelastung*	N	510
Torque / *Momento torcente / Drehmoment*	Nm	20
Weight / *Peso / Gewicht*	kg	5,4
Collet / *Pinza / Spannzange*		ER-25 ø 2/16 mm

Shank Cono Aufnahme	Size Grandezza Größe	I	S
ISO/CAT	40	65-80-(110*)	35
	50	80-(110*)	35
MAS-BT	40	65-80-(110*)	35
	50	80-(110*)	41
HSK	63-80	65-80-(110*)	42
	100	80-(110*)	45
CAPTO	C5-C6	65-80-(110*)	38
	C8	80-110	40
KM	50-63	65-80-(110*)	40

** Optional*

STANDARD EQUIPMENT INCLUDES:

- Special bag - Retaining block - wrenches
- Grease tube - Instruction book

- Bauletto - Tassello di ritegno - Ghiera ER chiavi di servizio - Tubetto di grasso - Libro istruzioni

- Spezialtasche - Stop block - Schraubenschlüssel
- Tube mit Fett - Bedienungsanleitung

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