



SERIE
MOX
K

FH

BAH

TA.CP

TA

MOX

HT

5-1

VH

TSI/TSX

T

MT-TC-TC3





I moltiplicatori di giri serie "MOx" sono stati studiati e definiti con l'intento di offrire un prodotto che possa assicurare la massima affidabilità e precisione nelle operazioni di fresatura e foratura.

Dalla progettazione al controllo statico e dinamico del prodotto finito, i nostri moltiplicatori di giri sfruttano le più avanzate conoscenze tecniche e tecnologiche. La costruzione compatta, i componenti in acciaio trattato termicamente, gli ingranaggi rettificati sull'evolvente permettono la trasmissione di potenze elevate con ottimi livelli di silenziosità. Il mandrino è supportato da cuscinetti a sfere di precisione a contatto obliquo precaricati che gli conferiscono un'elevata rigidità e precisione di rotazione.

I moltiplicatori della serie MOx vedono infatti le seguenti caratteristiche:

- Equilibratura di tutti i componenti in rotazione
- Semplice set up nelle macchine con cambio utensile automatico
- Ingranaggi progettati per ridurre il rumore e le vibrazioni dell'utensile
- Liquido refrigerante ad alta pressione su tutta la gamma
- Poca generazione di calore e maggiore stabilità termica grazie a nuovi cuscinetti
- Giri max 35.000
- Utilizzati specialmente in operazioni di finitura
- Possibilità di montaggio manuale o automatico
- Consentono alla macchina di ruotare a bassi regimi di giri
- Possibilità di utilizzare utensili in metallo duro

The "MOx" series spindle speeders have been designed and developed to offer maximum reliability and precision in milling and drilling. From design to static and dynamic testing of the finished product, our spindle speeders rely on the most advanced technical know-how. The compact construction, the heat-treated steel parts, and the ground gears on the involute, guarantee transmission of high power ratings with amazingly low noise levels. The spindle is supported by a set of preloaded precision ball bearings with oblique contact that ensure greater strength and rotation precision.

Our MOx series includes the following features:

- *Balancing of all the rotating components*
- *Greater speed*
- *More stability thanks to an advanced bearing layout*
- *A new system making set up easier for automatic tool change*
- *A new bearing layout that reduces noise and vibration of the tool*
- *Greater load capacity*
- *Low heat generation and more thermal stability thanks to the advanced bearing layout*
- *Max 35.000 rpm*
- *Mainly used for finishing operations*
- *Manual or automatic tool change options*
- *Allows the machine to rotate at low rpm*
- *Allows the use of carbide cutting tools*



FH

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MOX10.HS

MOLTIPLICATORE DI GIRI • SPINDLE SPEEDERS



40
5,8 KG

50
8 KG

PESO
WEIGHT

IN
INPUT

OUT
OUTPUT

ROTAZIONE
ROTATION

OPTIONAL



ER16



10 BAR



MAX 242 N



1-8



36000

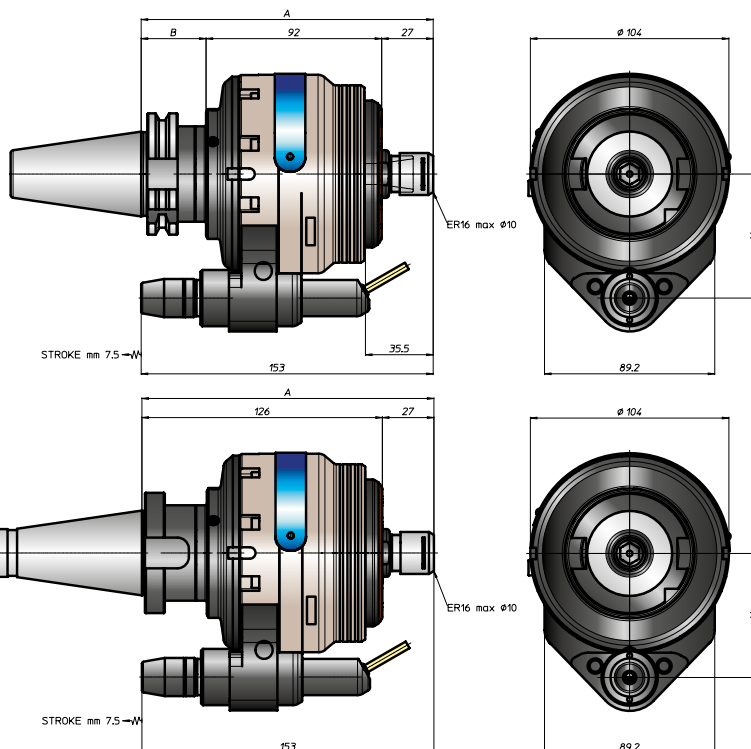


70 BAR



8

CARATTERISTICHE
FEATURES

CONO
SHANK

DIN69871



ANSIB5.50

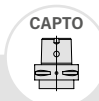


BT



HSK

DIN69893

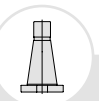


CAPTO

ISO26623



KM



DIN2080



NMTB

ANSIB5.18

SIZE

30	40	45	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50	40	50
----	----	----	----	----	----	----	----	----	----	-----	----	----	----	----	----	-----	----	----	----	----

A

154				154		154	162	163		163	158	154				154		154	
-----	--	--	--	-----	--	-----	-----	-----	--	-----	-----	-----	--	--	--	-----	--	-----	--

B

34	42	34	42	35	50	42	51					34	42	34	42
----	----	----	----	----	----	----	----	--	--	--	--	----	----	----	----

H STANDARD

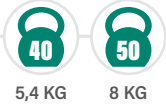
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----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

H OPTIONAL

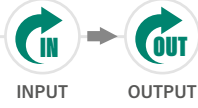
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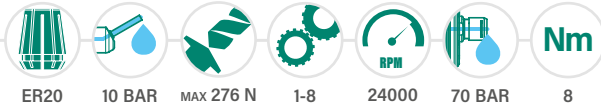
PESO
WEIGHT



ROTAZIONE
ROTATION



CARATTERISTICHE
FEATURES



OPTIONAL



MOX10

MOLTIPLICATORE DI GIRI - SPINDLE SPEEDERS

FH

BAH

TA.CP

TA

MOX

HT

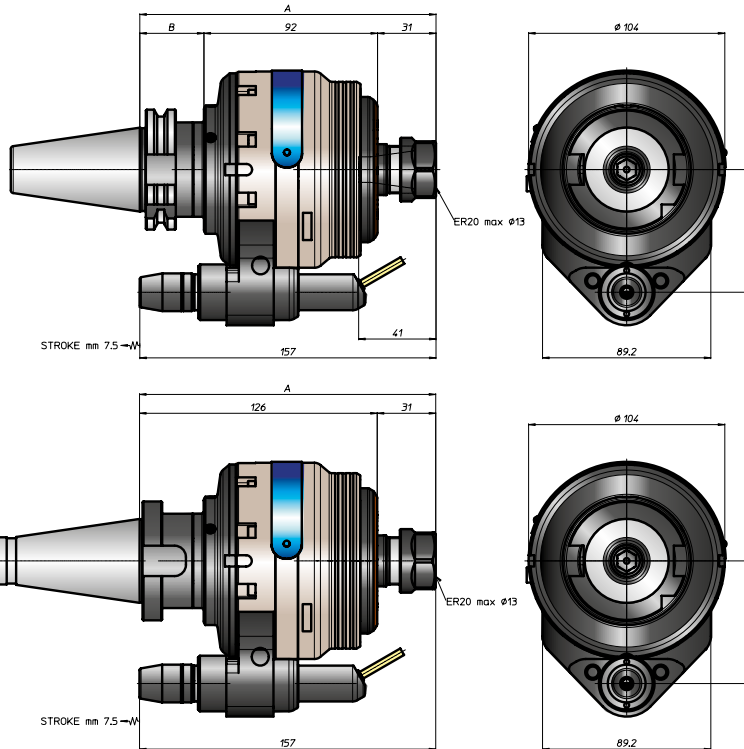
5-4

VH

TSI/TSX

T

MT-TC-TC3



CONO
SHANK



SIZE	DIN69871				ANSIB5.50		BT		DIN69893			ISO26623			KM		DIN2080		ANSIB5.18			
A	30	40	45	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50	40	50	
A	157				157		157	165	166			166	161		157			157		157		
B	34	42			34	42	35	50	42			51				34	42		34	42		
H STANDARD	65	80			65	80	65	80	65	80			65	80		65	80		65	80		
H OPTIONAL	80	110	110		80	110	110	80	110	80	80	110	110	80	110	110	80	110	110	80	110	110



MOX13

MOLTIPLICATORE DI GIRI • SPINDLE SPEEDERS



40
6,5 KG

50
9 KG

PESO
WEIGHT



INPUT



OUTPUT

ROTAZIONE
ROTATION

OPTIONAL



ER25



10 BAR



MAX 460 N



1-6



20000

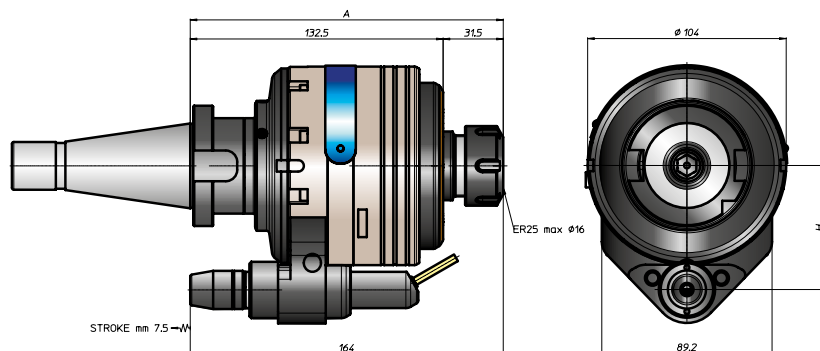
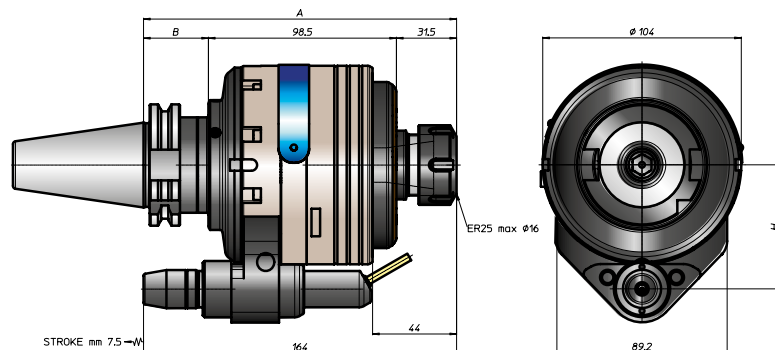


70 BAR



16

CARATTERISTICHE
FEATURES



CONO
SHANK

SIZE

A

B

H STANDARD

H OPTIONAL



DIN69871



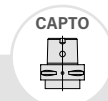
ANSIB5.50



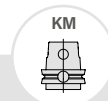
BT



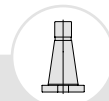
DIN69893



ISO26623



63 80 100



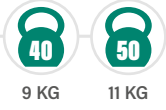
DIN2080



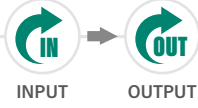
ANSIB5.18

40	45	50	40	50	40	50	63	80	100	C5	C6	C8	63	80	100	40	50	40	50	
164		164		164	172	173	172,5	168		163,5		164		164		164		164		
34	42	34	42	35	50	42	51							34	42	34	42	34	42	
65	80	65	80	65	80	65	80	65	80	65	80	65	80	65	80	65	80	65	80	
80	110	110	80	110	110	80	110	110	80	110	110	80	110	110	80	110	110	80	110	110

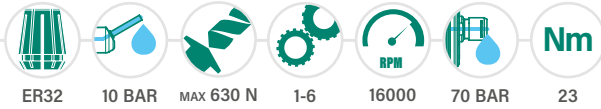
PESO
WEIGHT



ROTAZIONE
ROTATION



CARATTERISTICHE
FEATURES



MOX16

MOLTIPLICATORE DI GIRI - SPINDLE SPEEDERS

FH

BAH

TA.CP

TA

MOX

HT

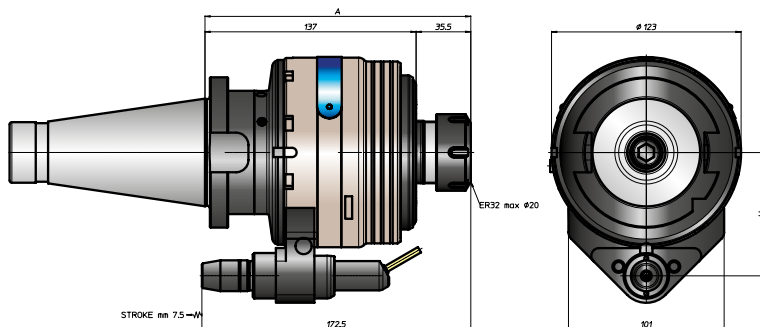
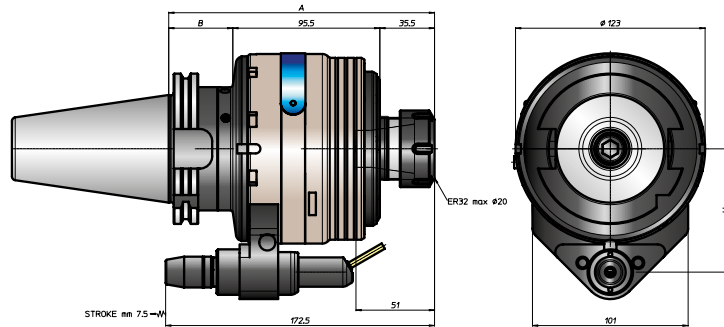
5-6

VH

TSI/TSX

T

MT-TC-TC3



CONO
SHANK

SIZE

A

B

H STANDARD

H OPTIONAL

	DIN69871		ANSIB5.50		BT		DIN69893		ISO26623		KM		DIN2080		ANSIB5.18	
SIZE	40	50	50	50	80	100	80	100	80	100	80	100	40	50	40	50
A	172,5		172,5		180,5		181,5		176,5		172,5		172,5		172,5	
B	34	42	35	50	42	51					34	42	34	42		
H STANDARD	80		80		80		80		80		80		80		80	
H OPTIONAL	110		110		110		110		110		110		110	110	110	

FH

BAH

TA.CP

TA

MOX

HT

5-7

VH

TSI/TSX

T

MT-TC-TC3



MOX26

MOLTIPLICATORE DI GIRI • SPINDLE SPEEDERS



50
21 KG

PESO
WEIGHT



INPUT



OUTPUT

ROTAZIONE
ROTATION

OPTIONAL



ER40



10 BAR



MAX 1325 N



1-4,2



12000

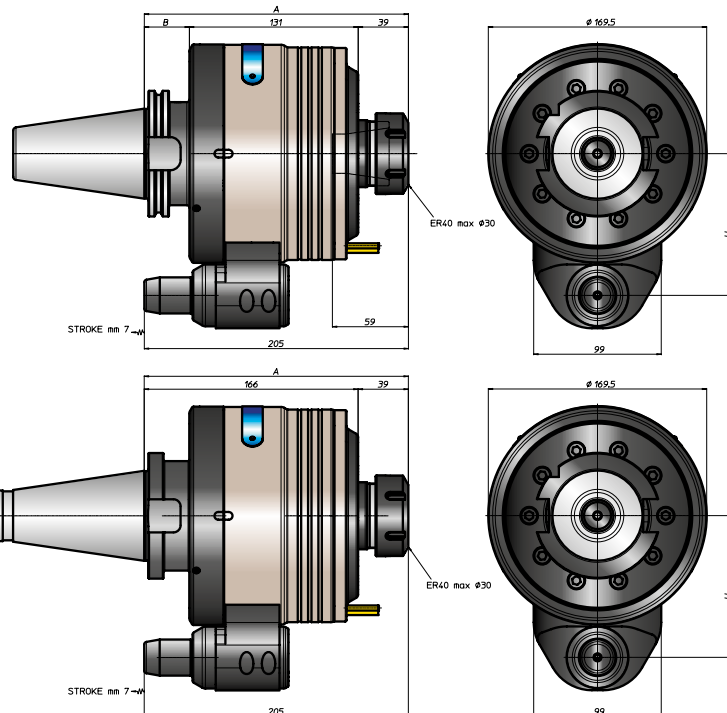


70 BAR



47

CARATTERISTICHE
FEATURES



CONO
SHANK

SIZE

A

B

H STANDARD

H OPTIONAL



DIN69871



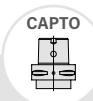
ANSIB5.50



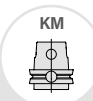
BT



DIN69893



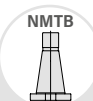
ISO26623



KM



DIN2080



ANSIB5.18

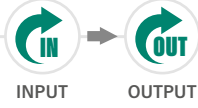
50	60	50	50	100	C8	100	50	50
205	221	221	221	223,5	213	209	205	205
35	51	35	51	53				
110		110	110	110	110	110	110	110



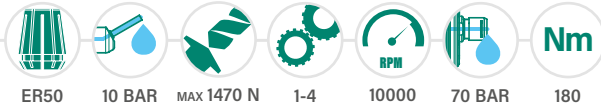
PESO
WEIGHT



ROTAZIONE
ROTATION



CARATTERISTICHE
FEATURES



MOX34

MOLTIPLICATORE DI GIRI • SPINDLE SPEEDERS

FH

BAH

TA.CP

TA

MOX

HT

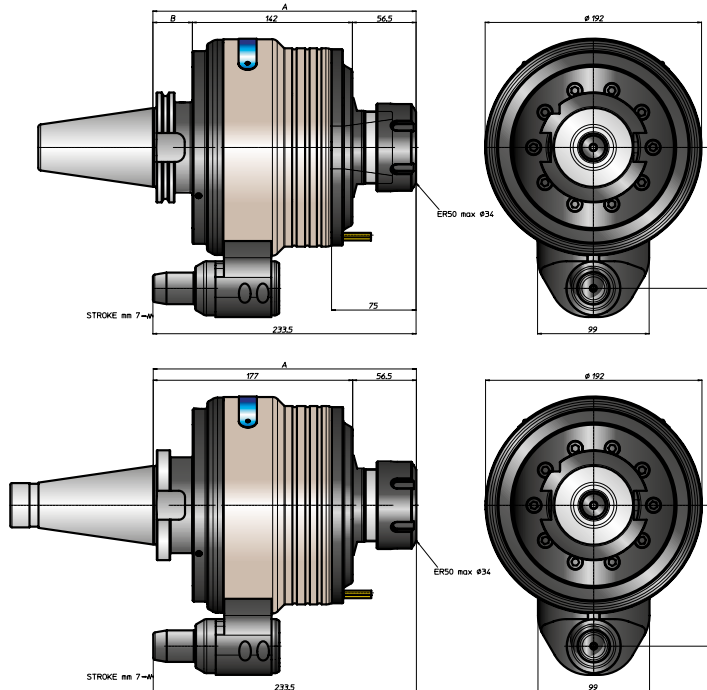
5-8

VH

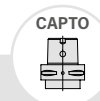
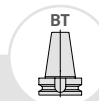
TSI/TSX

T

MT-TC-TC3



CONO
SHANK



SIZE

50 60 50 50 100 C8 100 50 50

A

233,5 249,5 249,5 249,5 252 241,5 237,5 233,5 233,5

B

35 51 35 51 53

H STANDARD

125 125 125 125 125 125 125 125 125

H OPTIONAL

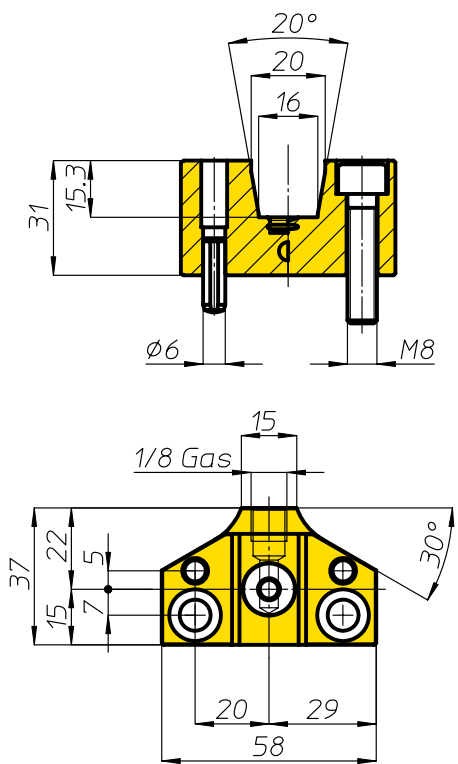
STOP-BLOCK

INCLUDED

STOP-BLOCK (COD. 630104)



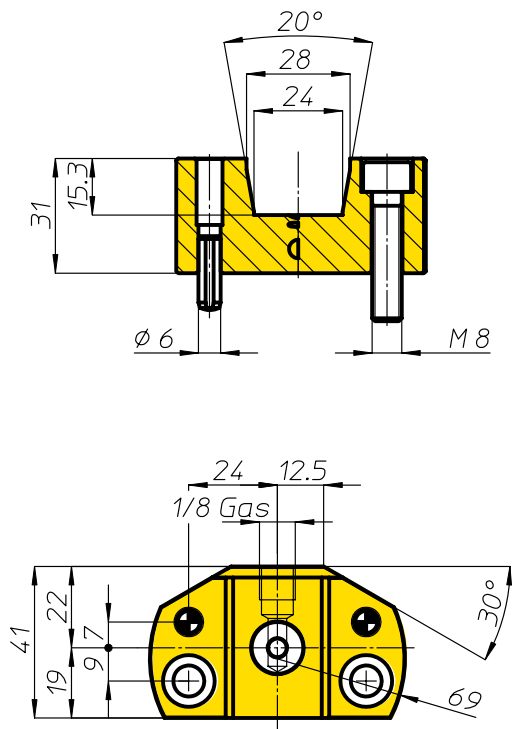
**MOX CON H=65/80
MOX WITH H=65/80**



STOP-BLOCK (COD. 632198)



**MOX CON H=110/125
MOX WITH H=110/125**



FH

BAH

TA.CP

TA

MOX

HT

5-9

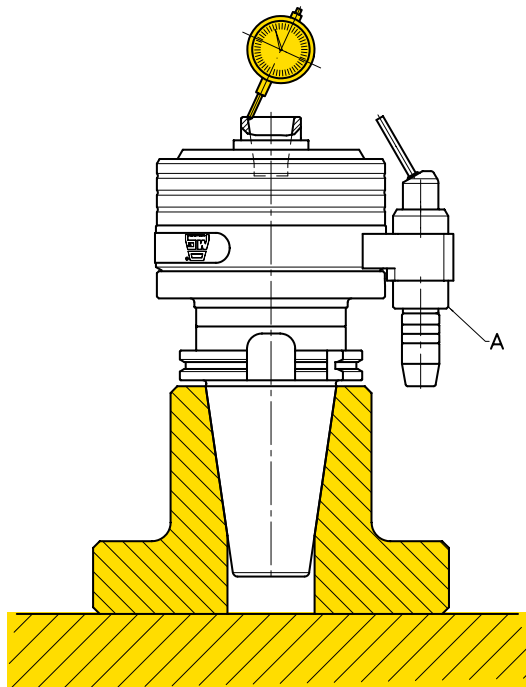
VH

TSI/TSX

T

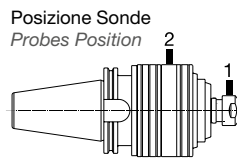
MT-TC-TC3





CERTIFICATO DI COLLAUDO / TEST REPORT

Banco prova BP03 / Testing bench BP03
 Data prova / Test date: 10/07/2011
 Articolo / Item: MO10
 Matricola / SN: 1315



N° Max Giri Uscita / Max Output RPM: 22.000
 Rapporto Entrata-Uscita / Ratio Input-Output : 1:6
 N° Giri Uscita = N° Giri Entrata * Rapporto / Output RPM = Input RPM * Ratio

Prova Test	N° Giri Entrata Input RPM	Temp.(°C) Sonda 1 Probe 1	Temp.(°C) Sonda 2 Probe 2	Temp. Ambiente Enviroment Temp.
1	1000	45,40	43,20	24,60
2	1500	40,80	36,80	24,60
3	2000	44,20	42,00	24,80
4	2500	48,80	42,00	24,80
5	3000	49,20	38,60	25,00

Concentricità Max Cono - Mandrino / Max Runout between Shank and Spindle : 0,006



COLLAUDO

Ogni moltiplicatore di giri ha allegato il proprio certificato di collaudo dove sono riportate le proprie caratteristiche tecniche, il numero di matricola, i risultati ottenuti dai test eseguiti sul nostro banco prova BP03, il valore della concentricità tra il cono e la sede pinza il cui valore massimo è mm 0.01. Per verificare il valore della concentricità occorre disporre il moltiplicatore come in fig. 1, fermare il perno A e ruotare il cono. Il valore letto sul comparatore millesimale è la concentricità tra l'asse del cono e l'asse del mandrino.

TEST

Every spindle speeder has his test certificate in which there are the technical characteristics, the serial number, the results of the tests made on our BP03 testing bench, the concentricity value between the shank and the collet (max. value 0,01 mm). To verify the concentricity value it is necessary to have the spindle speeder as from picture N° 1, stopping the pin "A" and rotating the shank. The value on the dial indicator is the concentricity between the shank axe and the spindle axe.



MO 26310

Riduttore di giri, rapporto 6-1,
input max 15.000 RPM, attacco
HSK63, mandrino ER20

*Spindle reducer, ratio 6-1, input
max 15.000 RPM, shank HSK63,
ER20 spindle*



MO 28910

MO16 con attacco CAPTO C8 e
mandrino ER25 prolungato

*MO16 with CAPTO C8 shank and
extended ER25 spindle*

MO 12110

Rapporto/Ratio 1-4
RPM max 4.500
Torque 1.150 Nm
Output DIN69871-A50
Peso/Weight Kg 240



TFS 09011

Riduttore di giri per maschiatura con compensazione assiale mandrino, corsa compensazione ± 7 mm, rapporto 6-1, input max 10.000 RPM, attacco HSK-F63, mandrino per bussola porta maschio grandezza 1

Tapping spindle reducer with axial compensation, stroke ± 7 mm, ratio 6-1, input max 10.000 RPM, shank HSK-F63, spindle for tapping bush size 1



VDI 16610

MO13 rinvio di 90° con attacco VDI30
MO13 with VDI30 shank at 90°



MO 26

MO26 con cono DIN69871-A60, mandrino Weldon $\varnothing 25$ e liquido refrigerante utensile passante dal centro stop-block/centro mandrino

MO26 with DIN69871-A60 shank, output spindle Weldon $\varnothing 25$, coolant trough the stop-block/spindle centre



MO 16210

MO13 con attacco VDI40
MO13 with VDI40 shank

MOX

MOLTIPLICATORI DI GIRI SPECIALI • SPECIAL SPINDLE SPEEDERS

FH

BAH

TA.CP

TA

MOX

HT

5-12

VH

TSI/TSX

T

MT-TC-TC3

