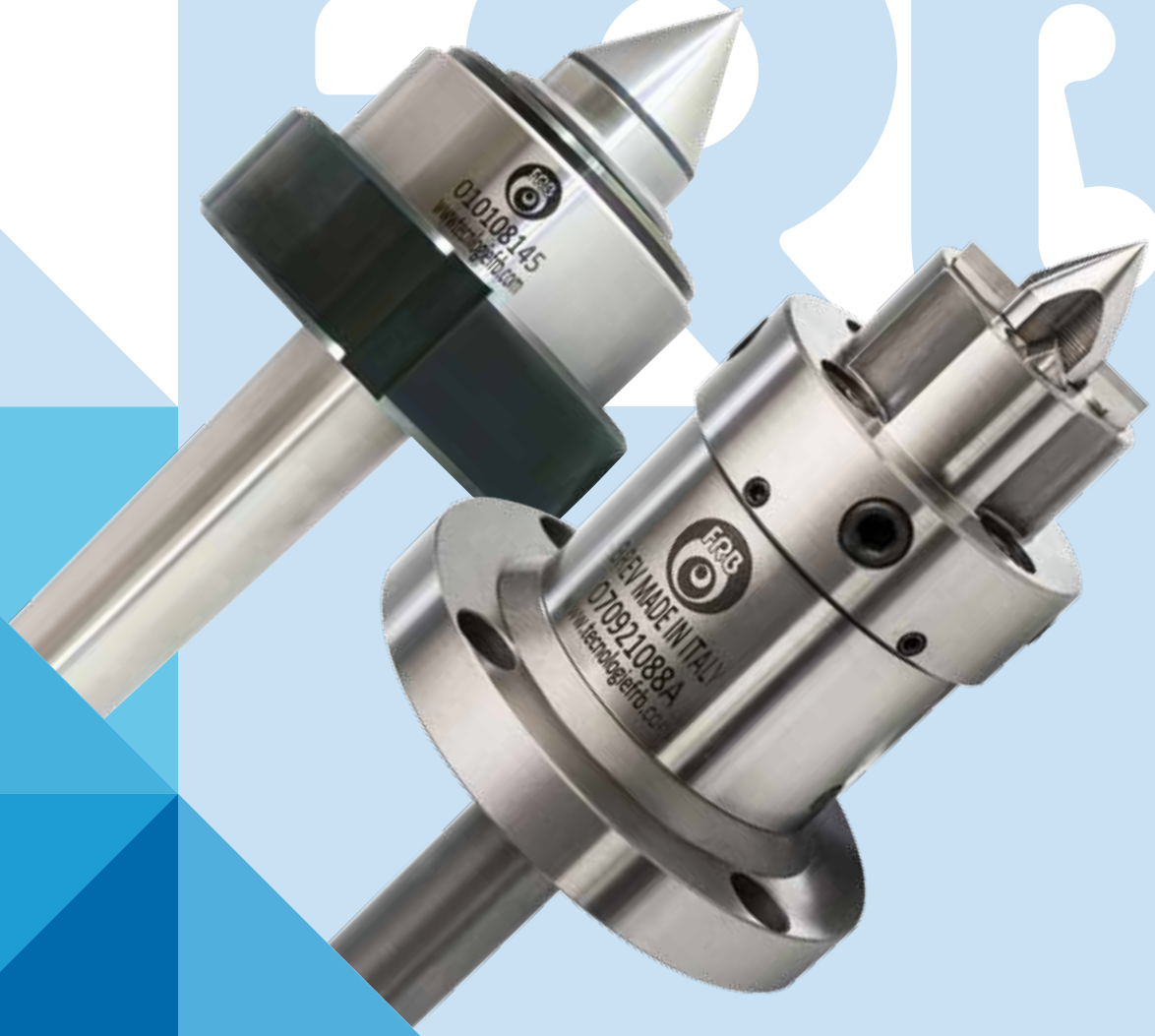
TECNOLOGIE FRB



2025

CATALOGO GENERALE
GENERAL CATALOGUE

TECNOLOGIE FRB

TECNOLOGIE FRB progetta, costruisce e commercializza diverse linee di prodotti brevettati, veramente innovativi e di concezione tecnologica avanzata nel settore delle lavorazioni meccaniche di tornitura, dentatura e rettifica.

Costantemente impegnata nella ricerca tecnologica e nel miglioramento delle prestazioni dei propri prodotti, dalla sua fondazione nei primi anni 60, **TECNOLOGIE FRB** ha riscosso la fiducia di numerose aziende di primaria importanza nazionale e internazionale, che utilizzano abitualmente i suoi prodotti.

Inoltre collabora attivamente con gli uffici tecnici dei più importanti costruttori di macchine utensili italiani ed esteri.

Gli appuntamenti con le novità tecnologiche (sempre più frequenti) dei prossimi anni, troveranno **TECNOLOGIE FRB** compartecipe attiva e all'avanguardia.

TECNOLOGIE FRB *designs, manufactures and markets many different patented product lines that are truly innovative and incorporate advanced technology turning, gear cutting and grinding concepts.*

TECNOLOGIE FRB *have invested heavily in Research & Development right from the day they started in early sixties, to ensure their products keep abreast of the latest technological advance and constantly improve their performance.This has won them the trust of many leading italian and international companies, who always use their products.*

They also work closely with the design offices of leading italian and foreign machine tools manufacturers.

TECNOLOGIE FRB *are going to continue to be at the forefront despite the ever increasing pace of technologycal change.*

LEGENDA ICONE CONTROPUNTE / *LIVE CENTERS ICONS KEY*

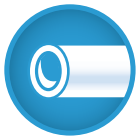
DESTINAZIONE D'USO
INTENDED USE

TORNITURA
TURNING

RETTIFICA
GRINDING

DENTATURA
GEAR CUTTING

CARATTERISTICHE TECNICHE
TECHNICAL FEATURES



Lavorazione tubi
Pipes machining

Tornitura del temprato
Hard turning

Albero molleggiato
Sprung shaft

Rotante
Rotating

Ghiera estrazione
Extraction nut

Lavorazione con trascinatore
Machining with face driver

Alta velocità
High speed

Carichi differenziati
Differentiated loads

Carichi pesanti
Heavy loads

Quantità
Quantity

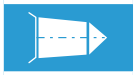
Cuscinetti
Bearings

PITTOGRAMMI
PICTOGRAMS

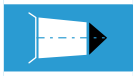
Codice contropunta
Live center code

Codice contropunta con albero integrale
Live center with integral shaft code

Codice contropunta con albero integrale e punta di metallo duro
Live center with integral shaft and hard carbide tip insert code



Codice contropunta con albero integrale prolungato
Live center with extended integral shaft code



Codice contropunta con albero integrale prolungato e punta di metallo duro
Live center with extended integral shaft and hard carbide tip insert code

Cono morse
Morse taper

Attacco cilindrico
Cylindrical connection

Attacco VDI
VDI connection

Concentricità
Concentricity

Rotondità
Roundness

Lubrificazione con grasso
Grease lubrication

Lubrificazione con olio nebulizzato
Oil mist lubrication

Carico assiale max kg/Lb
Max axial load kg/Lb

Carico radiale max. (peso pezzo) kg/Lb
Max radial load (workpiece weight) kg/Lb

Velocità max giri/min'
Max speed r.p.m.

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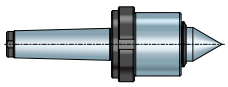
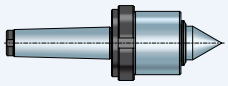
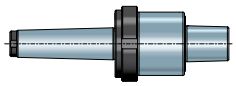
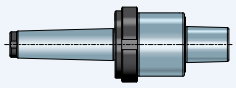
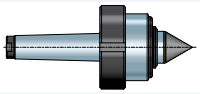
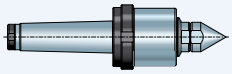
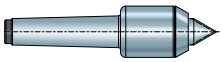
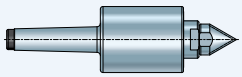
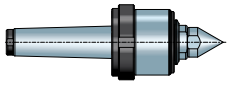
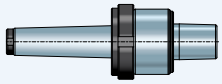
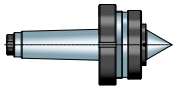
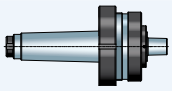
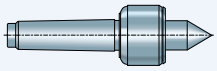
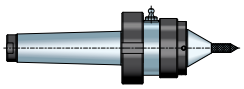
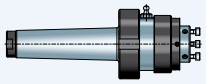
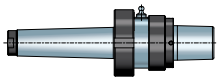
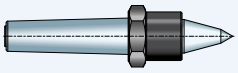
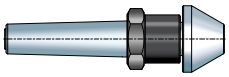
80		6	●			●●	
85		8	●			●●	
80-T		10	●			●●	●
85-T		10	●			●●	●
2008		12	●				
2006		13	●				
81		11	●				
81R		11	●				
2000		14	●				
2000-T		15	●				●
88		24	●	●			
88-T		24	●	●			●
RAPIDO		25	●				
92		18		●			
92F		20		●			
92M		21		●			●
82		22			●		
82-T		23			●		●

●● **Contropunte a carichi differenziati, particolarmente indicate per lavorazione in abbinamento a trascinatori.**
Live centers with axial load distribution, particularly suitable for machining with face drivers.

CARATTERISTICHE TECNICHE CONTROPUNTE - *LIVE CENTERS TECHNICAL FEATURES*

Tornitura del temprato *Hard turning*	Albero molleggiato *Sprung shaft*	Rotante *Rotating*	Ghiera estrazione *Extraction nut*	Lavorazione con trascinatore *Machining with face driver*	Alta velocità *High speed*	Carichi pesanti *Heavy loads*	Cuscinetti (Qt.) *Bearings (Qty.)*
		●	●	●			5
		●	●	●			5
		●	●	●			5
		●	●	●			5
●		●	●	●			5
		●	●		●		6
	●	●					3
	●	●					5
		●	●	●			4
		●	●	●			4
		●	●	●		●	5
		●	●	●		●	5
		●					3
		●	●	●			5
		●	●	●			5
		●	●	●			5
		●	●	●			3
		●	●	●			3

CONTROPUNTE A CARICO ASSIALE DIFFERENZIATO - SERIE 80
LIVE CENTER WITH AXIAL LOAD DISTRIBUTION - 80 SERIES

CONTROPUNTA CON ALBERO INTEGRALE E PUNTA DI METALLO DURO RIPORTATO
LIVE CENTER WITH INTEGRAL SHAFT AND CARBIDE TIP INSERT

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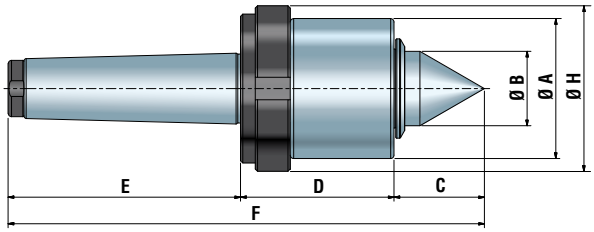

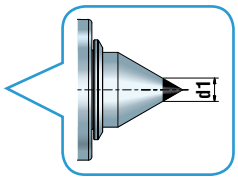

VERSIONE CON METALLO DURO
VERSION WITH HARD METAL

			Dimensioni in mm (pollici) / *Dimensions in mm (inch)*							
			C	D	E	Ø A	Ø B	F	Ø H	d1
010180133	**010180135**	CM3 / *MT3*	35,5 (1.398)	62,5 (2.461)	83 (3.268)	56,5 (2.224)	29 (1.142)	181 (7.126)	64 (2.520)	12 (0.472)
010180143	**010180145**	CM4 / *MT4*	40 (1.575)	68 (2.677)	103 (4.055)	62 (2.441)	33 (1.299)	211 (8.307)	74 (2.913)	12 (0.472)
010180153	**010180155**	CM5 / *MT5*	45 (1.772)	82 (3.228)	136 (5.354)	80 (3.150)	36 (1.417)	263 (10.354)	87 (3.425)	18 (0.709)
010180163	**010180165**	CM6 / *MT6*	67 (2.638)	122 (4.803)	189 (7.441)	119 (4.685)	57,5 (2.264)	378 (14.882)	130 (5.118)	20 (0.787)

CONTROPUNTA CON ALBERO INTEGRALE PROLUNGATO E PUNTA DI METALLO DURO RIPORTATO
LIVE CENTER WITH EXTENDED INTEGRAL SHAFT AND CARBIDE TIP INSERT

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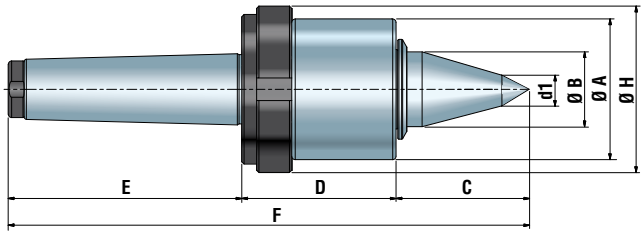
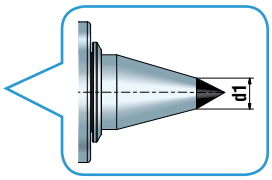


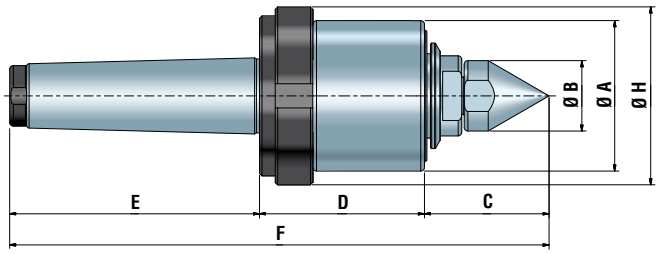


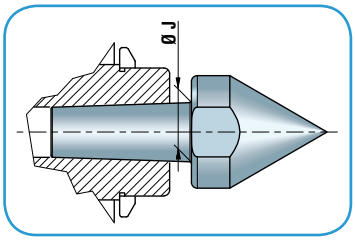
VERSIONE CON METALLO DURO
VERSION WITH HARD METAL

			Dimensioni in mm (pollici) / *Dimensions in mm (inch)*							
			C	D	E	Ø A	Ø B	F	Ø H	d1
010180134	**010180136**	CM3 / *MT3*	55 (2.165)	62,5 (2.461)	83 (3.268)	56,5 (2.224)	29 (1.142)	200,5 (7.894)	64 (2.520)	10 (0.394)
010180144	**010180146**	CM4 / *MT4*	60 (2.362)	68 (2.677)	103 (4.055)	62 (2.441)	33 (1.299)	231 (9.094)	74 (2.913)	12 (0.472)
010180154	**010180156**	CM5 / *MT5*	62 (2.441)	82 (3.228)	136 (5.354)	80 (3.150)	36 (1.417)	280 (11.024)	87 (3.425)	14 (0.551)
010180164	**010180166**	CM6 / *MT6*	90 (3.543)	122 (4.803)	189 (7.441)	119 (4.685)	57,5 (2.264)	401 (15.787)	130 (5.118)	20 (0.787)

CONTROPUNTA CON ALBERO PORTA CUSPIDE INTERCAMBIABILE
LIVE CENTER WITH INTERCHANGEABLE CENTER SUPPORT SHAFT

< 0.010



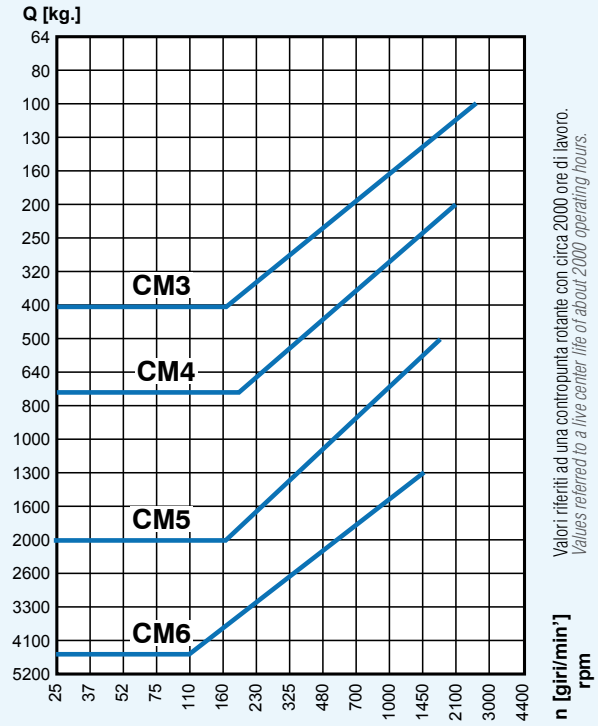


		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*							
		C	D	E	Ø A	Ø B	F	Ø H	Ø J
010180131	CM3 / *MT3*	44 (1.732)	62,5 (2.461)	83 (3.268)	56,5 (2.224)	26 (1.024)	189,5 (7.461)	64 (2.520)	CØ13.5
010180141	CM4 / *MT4*	48,5 (1.909)	68 (2.677)	103 (4.055)	62 (2.441)	29 (1.142)	219,5 (8.642)	74 (2.913)	CØ15.4
010180151	CM5 / *MT5*	54 (2.126)	82 (3.228)	136 (5.354)	80 (3.150)	34 (1.339)	272 (10.709)	87 (3.425)	CØ20.3
010180161	CM6 / *MT6*	65 (2.559)	122 (4.803)	189 (7.441)	119 (4.685)	43 (1.693)	376 (14.803)	130 (5.118)	CØ28

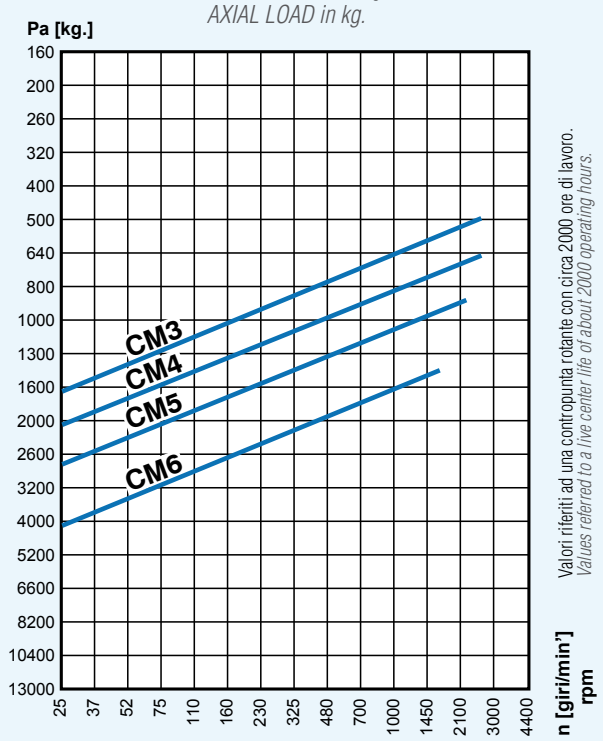
NOTA: Per le cuspidi intercambiabili, vedi paragrafo "serie FR" (vedi pagine 16 e 17).
NOTE: *For the interchangeable centers, see "FR series" paragraph (see pages 16 and 17).*

DIAGRAMMI DI CARICO
LOAD CHARTS

CARICO RADIALE (PESO PEZZO) in kg.
RADIAL LOAD (WORKPIECE WEIGHT) in kg.



CARICO ASSIALE in kg.
AXIAL LOAD in kg.



Note: i valori di carico riportati si riferiscono al modello con albero integrale e ad una durata della contropunta di circa 2.000 ore di lavoro.
Le prove hanno comunque dimostrato che si possono ottenere durate superiori o inferiori a seconda delle lavorazioni.
Per gli altri tipi di contropunte (con cuspide intercambiabile e albero integrale prolungato) è bene ridurre i valori di carico radiale ricavati dal grafico.
Tali riduzioni di carico sono dovute nel primo caso all'intercambiabilità della cuspide e nel secondo al prolungamento dell'albero integrale.

Esempio:
Carichi ammissibili della contropunta CM4
con albero integrale a n = 1000 giri/min'
Carico radiale Q = 320 kg
Carico assiale Pa = 900 kg

Notes: *The load values refer to the model with an integral shaft and a live center life of about 2000 operating hours.*
Tests have shown that the live center can however be used for a longer or shorter period than this, depending on the types of machining task it undertakes.
For other types of live center (with interchangeable center and extended integral shaft) the load values indicated on the graphs should be reduced.
These are a result of the center interchangeability in the first case and in the second are due to the extension of the integral shaft.

Example:
Permitted maximum loads for the MT4 live center with integral shaft at n = 1000 r.p.m.
Radial load Q = 320 kg
Axial load Pa = 900 kg

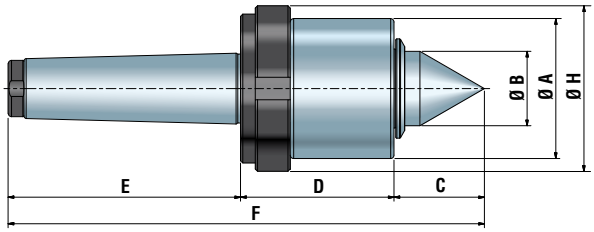
VALORI INDICATIVI. Per maggiori indicazioni su utilizzo delle contropunte contattare il nostro servizio tecnico.
INDICATIVE VALUES. For further and more detailed information, contact our technical office.

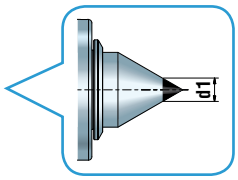
A pagina 32 di questo catalogo è presente la descrizione funzionale delle contropunte a carico assiale differenziato.
At page 32 of this catalogue there is the functional description of the axial load distribution.

CONTROPUNTE A CARICO ASSIALE DIFFERENZIATO - SERIE 85
LIVE CENTER WITH AXIAL LOAD DISTRIBUTION - 85 SERIES

CONTROPUNTA CON ALBERO INTEGRALE E PUNTA DI METALLO DURO RIPORTATO
LIVE CENTER WITH INTEGRAL SHAFT AND CARBIDE TIP INSERT

< 0.003





VERSIONE CON METALLO DURO
VERSION WITH HARD METAL

			Dimensioni in mm (pollici) / *Dimensions in mm (inch)*							
			C	D	E	Ø A	Ø B	F	Ø H	d1
010185133	**010185135**	CM3 / *MT3*	35,5 (1.398)	62,5 (2.461)	83 (3.268)	56,5 (2.224)	29 (1.142)	181 (7.126)	64 (2.520)	12 (0.472)
010185143	**010185145**	CM4 / *MT4*	40 (1.575)	68 (2.677)	103 (4.055)	62 (2.441)	33 (1.299)	211 (8.307)	74 (2.913)	12 (0.472)
010185153	**010185155**	CM5 / *MT5*	45 (1.772)	82 (3.228)	136 (5.354)	80 (3.150)	36 (1.417)	263 (10.354)	87 (3.425)	18 (0.709)
010185163	**010185165**	CM6 / *MT6*	67 (2.638)	122 (4.803)	189 (7.441)	119 (4.685)	57,5 (2.264)	378 (14.882)	130 (5.118)	20 (0.787)

CONTROPUNTA CON ALBERO INTEGRALE PROLUNGATO E PUNTA DI METALLO DURO RIPORTATO
LIVE CENTER WITH EXTENDED INTEGRAL SHAFT AND CARBIDE TIP INSERT

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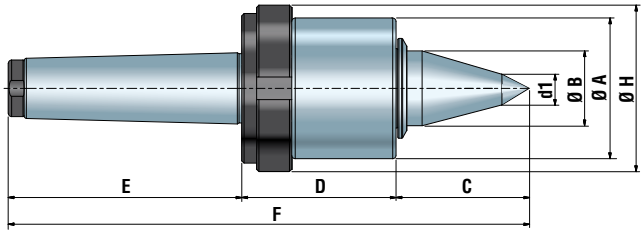
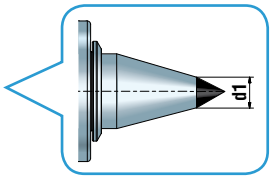


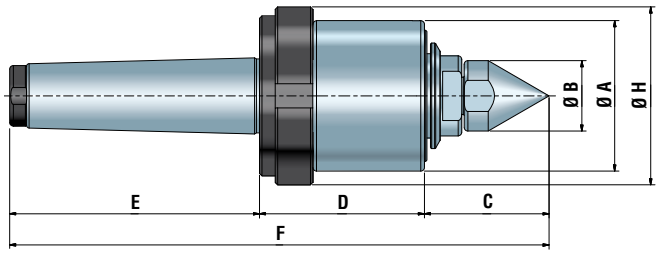


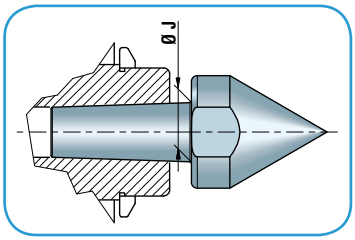
VERSIONE CON METALLO DURO
VERSION WITH HARD METAL

			Dimensioni in mm (pollici) / *Dimensions in mm (inch)*							
			C	D	E	Ø A	Ø B	F	Ø H	d1
010185134	**010185136**	CM3 / *MT3*	55 (2.165)	62,5 (2.461)	83 (3.268)	56,5 (2.224)	29 (1.142)	200,5 (7.894)	64 (2.520)	10 (0.394)
010185144	**010185146**	CM4 / *MT4*	60 (2.362)	68 (2.677)	103 (4.055)	62 (2.441)	33 (1.299)	231 (9.094)	74 (2.913)	12 (0.472)
010185154	**010185156**	CM5 / *MT5*	62 (2.441)	82 (3.228)	136 (5.354)	80 (3.150)	36 (1.417)	280 (11.024)	87 (3.425)	14 (0.551)
010185164	**010185166**	CM6 / *MT6*	90 (3.543)	122 (4.803)	189 (7.441)	119 (4.685)	57,5 (2.264)	401 (15.787)	130 (5.118)	20 (0.787)

CONTROPUNTA CON ALBERO PORTA CUSPIDE INTERCAMBIABILE
LIVE CENTER WITH INTERCHANGEABLE CENTER SUPPORT SHAFT

< 0.010



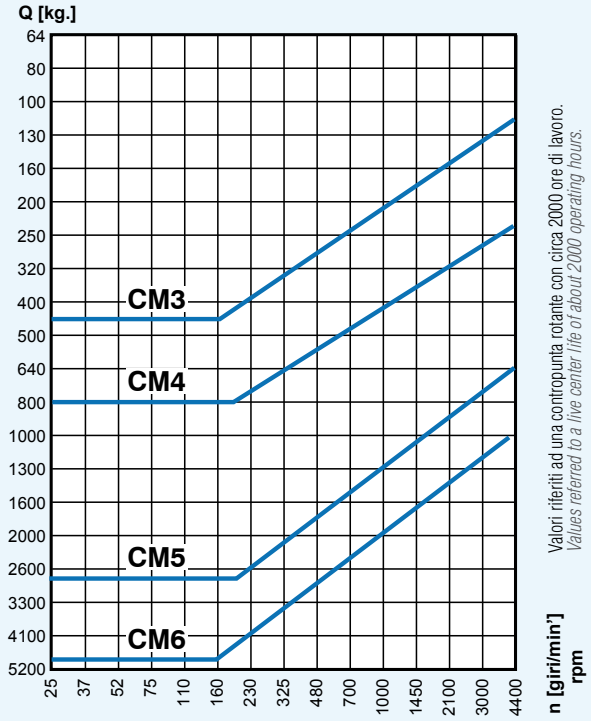


		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*							
		C	D	E	Ø A	Ø B	F	Ø H	Ø J
010185131	CM3 / *MT3*	44 (1.732)	62,5 (2.461)	83 (3.268)	56.5 (2.224)	26 (1.024)	189,5 (7.461)	64 (2.520)	CØ13.5
010185141	CM4 / *MT4*	48,5 (1.909)	68 (2.677)	103 (4.055)	62 (2.441)	29 (1.142)	219,5 (8.642)	74 (2.913)	CØ15.4
010185151	CM5 / *MT5*	54 (2.126)	82 (3.228)	136 (5.354)	80 (3.150)	34 (1.339)	272 (10.709)	87 (3.425)	CØ20.3
010185161	CM6 / *MT6*	65 (2.559)	122 (4.803)	189 (7.441)	119 (4.685)	43 (1.693)	376 (14.803)	130 (5.118)	CØ28

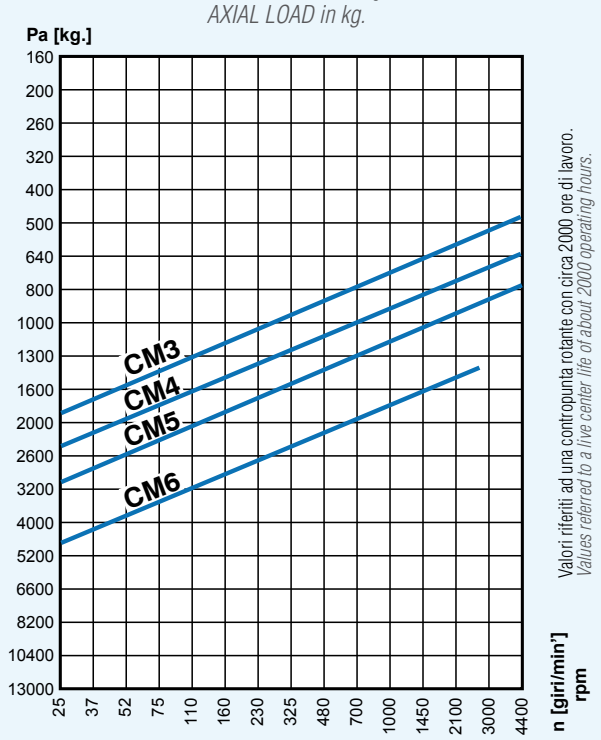
NOTA: Per le cuspidi intercambiabili, vedi paragrafo "serie FR" (vedi pagine 16 e 17).
NOTE: *For the interchangeable centers, see "FR series" paragraph (see pages 16 and 17).*

DIAGRAMMI DI CARICO
LOAD CHARTS

CARICO RADIALE (PESO PEZZO) in kg.
RADIAL LOAD (WORKPIECE WEIGHT) in kg.



CARICO ASSIALE in kg.
AXIAL LOAD in kg.



Note: i valori di carico riportati si riferiscono al modello con albero integrale e ad una durata della contropunta di circa 2.000 ore di lavoro.
Le prove hanno comunque dimostrato che si possono ottenere durate superiori o inferiori a seconda delle lavorazioni.
Per gli altri tipi di contropunte (con cuspide intercambiabile e albero integrale prolungato) è bene ridurre i valori di carico radiale ricavati dal grafico.
Tali riduzioni di carico sono dovute nel primo caso all'intercambiabilità della cuspide e nel secondo al prolungamento dell'albero integrale.

Esempio:
Carichi ammissibili della contropunta CM4
con albero integrale a n = 1000 giri/min'
Carico radiale Q = 450 kg
Carico assiale Pa = 900 kg

Notes: *The load values refer to the model with an integral shaft and a live center life of about 2000 operating hours.*
Tests have shown that the live center can however be used for a longer or shorter period than this, depending on the types of machining task it undertakes.
For other types of live center (with interchangeable center and extended integral shaft) the load values indicated on the graphs should be reduced.
These are a result of the center interchangeability in the first case and in the second are due to the extension of the integral shaft.

Example:
Permitted maximum loads for the MT4 live center with integral shaft at n = 1000 r.p.m.
Radial load Q = 450 kg
Axial load Pa = 900 kg

VALORI INDICATIVI. Per maggiori indicazioni su utilizzo delle contropunte contattare il nostro servizio tecnico.
INDICATIVE VALUES. For further and more detailed information, contact our technical office.

A pagina 32 di questo catalogo è presente la descrizione funzionale delle contropunte a carico assiale differenziato.
At page 32 of this catalogue there is the functional description of the axial load distribution.

CONTROPUNTA A CARICO ASSIALE DIFFERENZIATO PORTA ANELLI CONICI PER TORNITURA DI TUBI - SERIE 80-T
LIVE CENTER WITH AXIAL LOAD DISTRIBUTION HEADS CARRYING FOR PIPES TURNING - 80-T SERIES

80-T

SERIE *SERIES*

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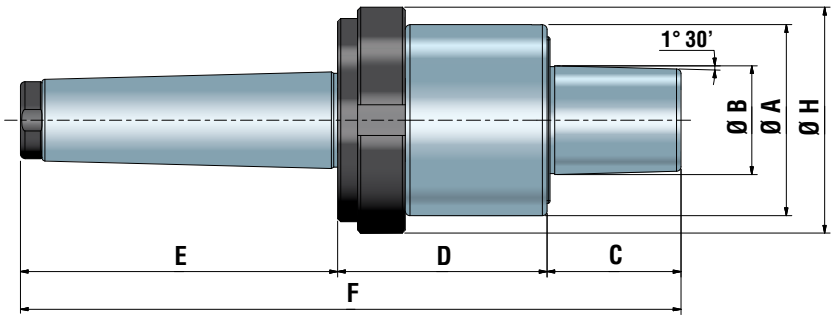


		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*						
		C	D	E	Ø A	Ø B	F	Ø H
010180147	CM4 / *MT4*	42 (1.654)	68 (2.677)	103 (4.055)	62 (2.441)	35 (1.378)	213 (8.386)	74 (2.913)
010180157	CM5 / *MT5*	42 (1.654)	82 (3.228)	136 (5.354)	80 (3.150)	35 (1.378)	260 (10.236)	87 (3.425)
010180167	CM6 / *MT6*	43 (1.693)	122 (4.803)	189 (7.441)	119 (4.685)	35 (1.378)	354 (13.937)	130 (5.118)

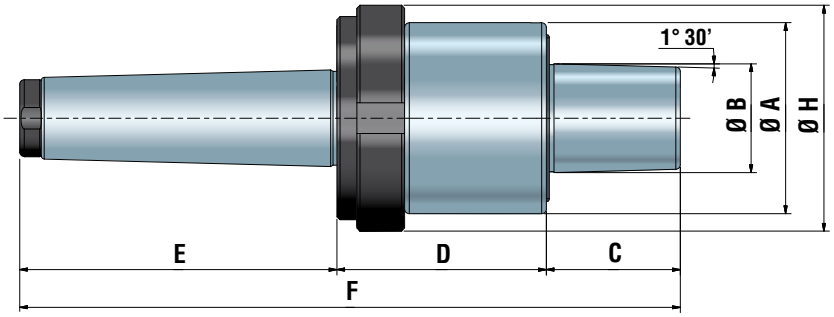
NOTA: Per anelli conici, vedi paragrafo "serie AC" (vedi pagina 31).
NOTE: *For heads, see "AC series" paragraph (see page 31).*

CONTROPUNTA A CARICO ASSIALE DIFFERENZIATO PORTA ANELLI CONICI PER TORNITURA DI TUBI - SERIE 85-T
LIVE CENTER WITH AXIAL LOAD DISTRIBUTION HEADS CARRYING FOR PIPES TURNING - 85-T SERIES

85-T

SERIE *SERIES*

< 0.010



		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*						
		C	D	E	Ø A	Ø B	F	Ø H
010185147	CM4 / *MT4*	42 (1.654)	68 (2.677)	103 (4.055)	62 (2.441)	35 (1.378)	213 (8.386)	74 (2.913)
010185157	CM5 / *MT5*	42 (1.654)	82 (3.228)	136 (5.354)	80 (3.150)	35 (1.378)	260 (10.236)	87 (3.425)
010185167	CM6 / *MT6*	43 (1.693)	122 (4.803)	189 (7.441)	119 (4.685)	35 (1.378)	354 (13.937)	130 (5.118)

NOTA: Per anelli conici, vedi paragrafo "serie AC" (vedi pagina 31).
NOTE: *For heads, see "AC series" paragraph (see page 31).*

CONTROPUNTA ROTANTE MOLLEGGIATA - SERIE 81
SPRUNG LIVE CENTER - 81 SERIES

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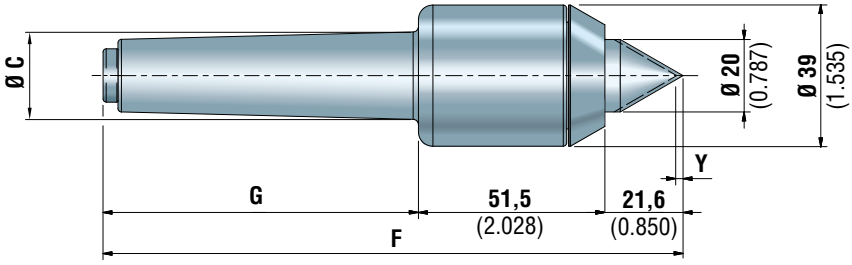


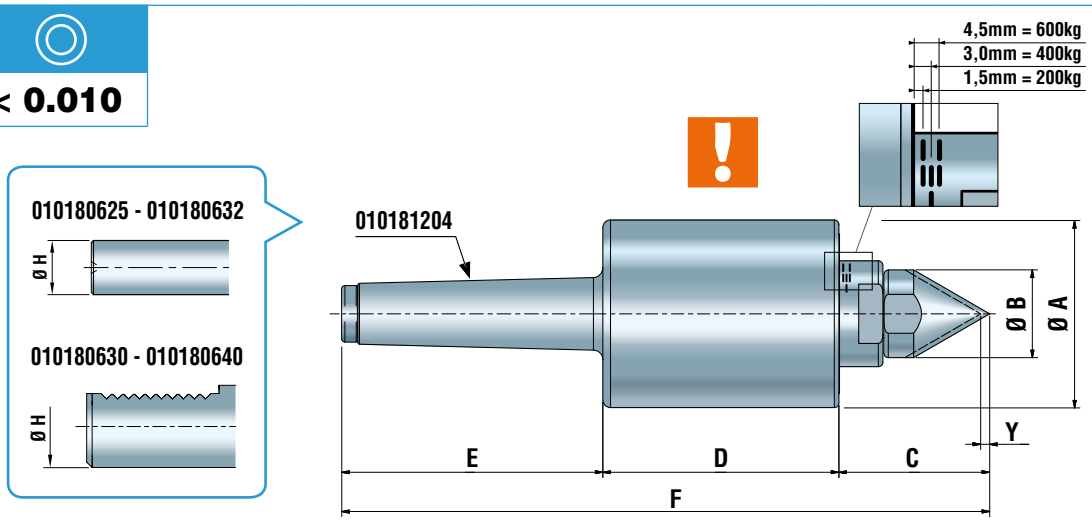
Y=	
Corsa / *Stroke* mm *(inch)*	Carico / *Load* kg *(Lb)*
3 (0.118)	90 (198.41)

		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*		
		Ø C	F	G
010180715	cilindrico / *cylindrical*	15 h7 (0.591)	123 (4.843)	50 (1.969)
010180819	cilindrico / *cylindrical*	19,05 h7 (0.750)	123 (4.843)	50 (1.969)
010180925	cilindrico / *cylindrical*	25,4 h7 (1.000)	123 (4.843)	50 (1.969)
010181001	CM1 / *MT1*	12,065 (0.475)	133 (5.236)	60 (2.362)
010181102	CM2 / *MT2*	17,780 (0.700)	144 (5.670)	71 (2.795)
010181203	CM3 / *MT3*	23,825 (0.938)	161 (6.339)	88 (3.465)
010181304	CM4 / *MT4*	31,267 (1.231)	173 (6.811)	100 (3.937)

81 SERIE *SERIES*

CONTROPUNTA ROTANTE MOLLEGGIATA - SERIE 81 RINFORZATA
SPRUNG ROTATING LIVE CENTERS - 81 REINFORCED SERIES

< 0.010



Y=	
Corsa / *Stroke* mm *(inch)*	Carico / *Load* kg *(Lb)*
1.5 (0.059)	200 (440.92)
3 (0.118)	400 (881.85)
4.5 (0.177)	600 (1322.77)

		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*					
		Ø A	Ø B	C	D	E	F
010181204	CM3 / *MT3*	62 (2.441)	29 (1.142)	48 (1.890)	75 (2.953)	88 (3.465)	211 (8.307)
010180604	CM4 / *MT4*	62 (2.441)	29 (1.142)	48 (1.890)	78 (3.071)	109 (4.291)	235 (9.252)

		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*						
		Ø A	Ø B	C	D	E	F	Ø H
010180625	cilindrico / *cylindrical*	62 (2.441)	29 (1.142)	50 (1.969)	75 (2.953)	65 (2.559)	190 (7.480)	25 (0.984)
010180632	cilindrico / *cylindrical*	62 (2.441)	29 (1.142)	50 (1.969)	75 (2.953)	65 (2.559)	190 (7.480)	32 (1.260)

		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*						
		Ø A	Ø B	C	D	E	F	Ø H
010180630	VDI 30	68 (2.677)	29 (1.142)	50 (1.969)	85 (3.346)	55 (2.165)	190 (7.480)	30 (1.181)
010180640	VDI 40	83 (3.268)	29 (1.142)	50 (1.969)	85 (3.346)	63 (2.480)	198 (7.795)	40 (1.575)

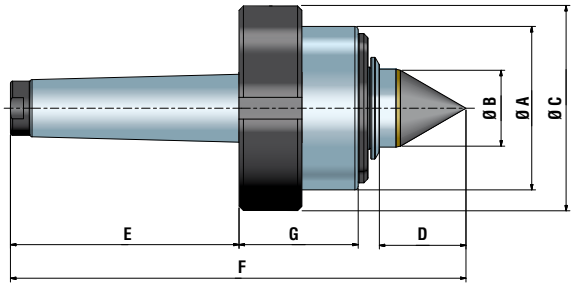
81R SERIE *SERIES*

NOTA: Per le cuspidi intercambiabili, vedi paragrafo "serie FR" (vedi pagine 16 e 17).
NOTE: *For the interchangeable centers, see "FR series" paragraph (see pages 16 and 17).*

A pagina 33 di questo catalogo è presente un esempio di applicazione della contropunta molleggiata serie 81.
At page 33 of this catalogue there is an example of application of the spring loaded live center 81 series.

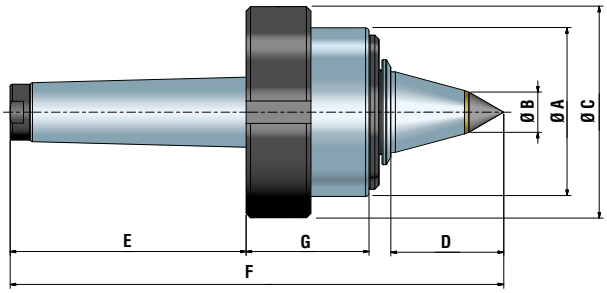
CONTROPUNTE PER TORNITURA DEL TEMPRATO - SERIE 2008
LIVE CENTERS FOR HARD TURNING - 2008 SERIES

< 0.003



		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*						
		Ø A	Ø B	Ø C	D	E	F	G
010108145	CM4 / *MT4*	75,5 (2.972)	35 (1.378)	95 (3.740)	40 (1.575)	105.5 (4.154)	210,5 (8.287)	55 (2.165)
010108155	CM5 / *MT5*	75,5 (2.972)	35 (1.378)	95 (3.740)	40 (1.575)	132,5 (5.217)	235 (9.252)	55 (2.165)

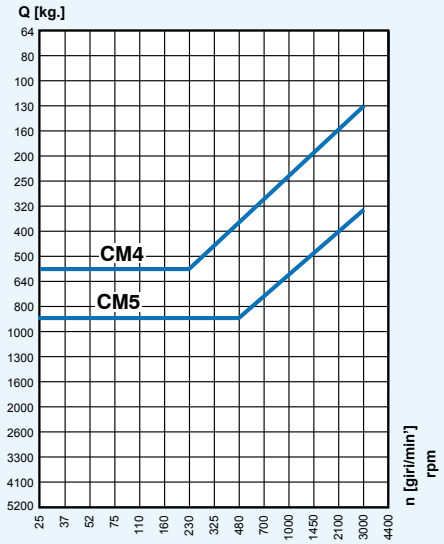
< 0.003



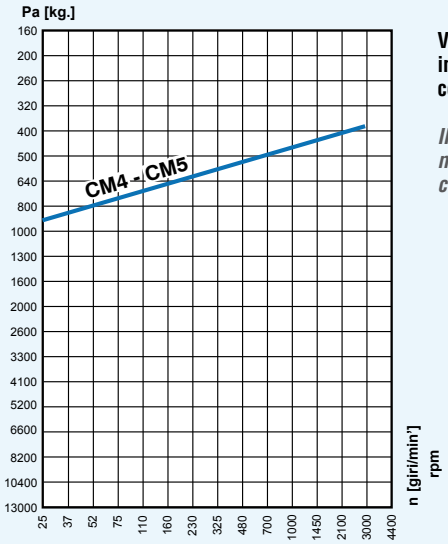
		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*						
		Ø A	Ø B	Ø C	D	E	F	G
010108146	CM4 / *MT4*	75,5 (2.972)	18 (0.709)	95 (3.740)	50,5 (1.988)	105,5 (4.154)	221 (8.701)	55 (2.165)
010108156	CM5 / *MT5*	75,5 (2.972)	18 (0.709)	95 (3.740)	50,5 (1.988)	132,5 (5.217)	246 (9.685)	55 (2.165)

DIAGRAMMI DI CARICO
LOAD CHARTS

Carico radiale (peso pezzo) in kg.
Radial load (workpiece weight) in kg.



Carico assiale in kg.
Axial load in kg.

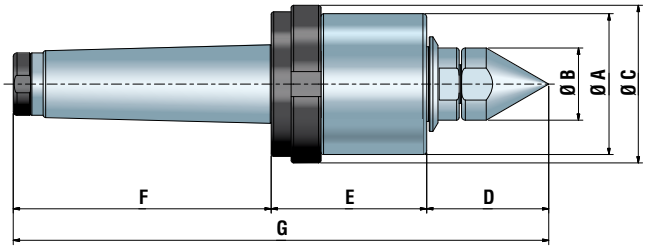


VALORI INDICATIVI. Per maggiori indicazioni su utilizzo delle contropunte contattare il nostro servizio tecnico.

INDICATIVE VALUES. For further and more detailed information, please contact our technical office.

CONTROPUNTE PER TORNITURA AD ALTE VELOCITÀ - SERIE 2006
HIGH SPEED TURNING LIVE CENTERS - 2006 SERIES

< 0.008

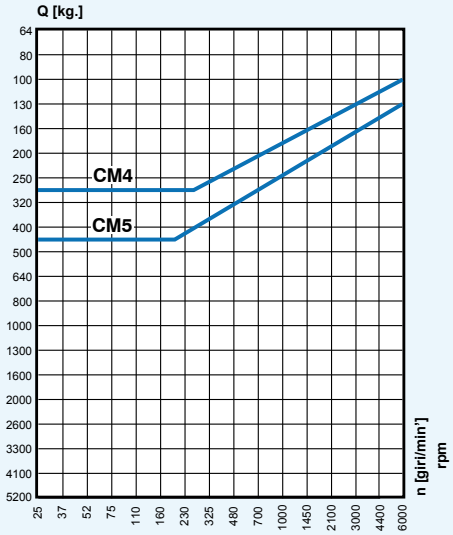


		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*						
		Ø A	Ø B	Ø C	D	E	F	G
010106142	CM4 / *MT4*	56,5 (2.224)	29 (1.142)	64 (2.520)	48,5 (1.909)	62.4 (2.457)	103,5 (4.075)	214,4 (8.441)
010106152	CM5 / *MT5*	56,5 (2.224)	29 (1.142)	64 (2.520)	48,5 (1.909)	62.4 (2.457)	103,5 (4.075)	214,4 (8.441)

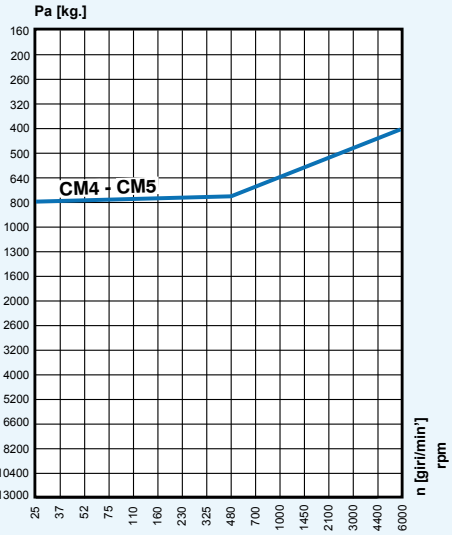
NOTA: Per le cuspidi intercambiabili, vedi paragrafo "serie FR" (vedi pagine 16 e 17).
NOTE: *For the interchangeable centers, see "FR series" paragraph (see pages 16 and 17).*

DIAGRAMMI DI CARICO
LOAD CHARTS

Carico radiale (peso pezzo) in kg.
Radial load (workpiece weight) in kg.



Carico assiale in kg.
Axial load in kg.



VALORI INDICATIVI. Per maggiori indicazioni su utilizzo delle contropunte contattare il nostro servizio tecnico.

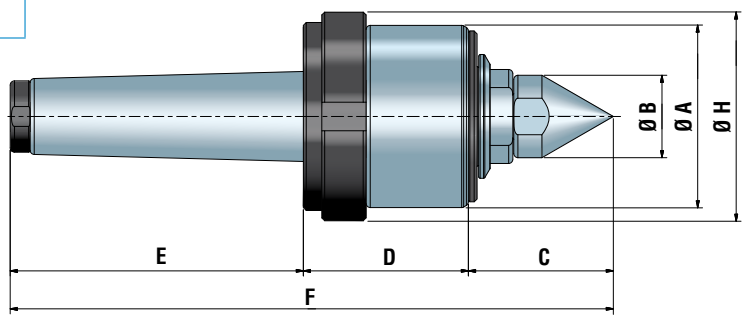
INDICATIVE VALUES. For further and more detailed information, please contact our technical office.

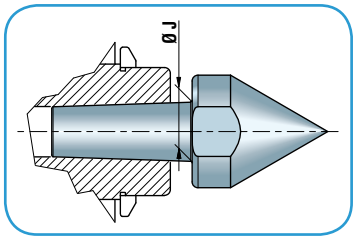
CONTROPUNTE PER TORNITURA - SERIE 2000 ECOLINE
LIVE CENTERS FOR TURNING - 2000 SERIES ECOLINE

2000

SERIE *SERIES*

< 0.010



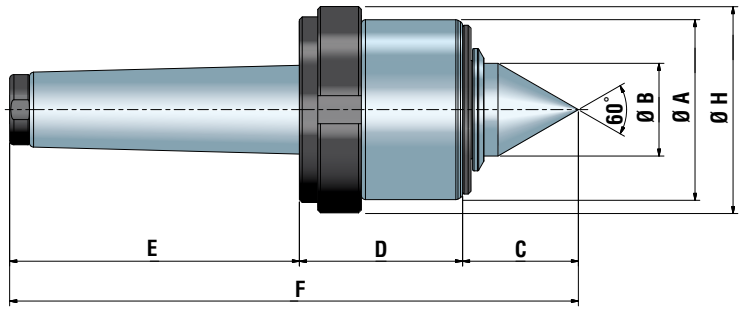


		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*							
		Ø A	Ø B	C	D	Ø H	E	F	Ø J
010100103	CM3 / *MT3*	56 (2.205)	26 (1.024)	47 (1.850)	53 (2.087)	64 (2.520)	86 (3.386)	186 (7.323)	CØ13.5
010100104	CM4 / *MT4*	64 (2.520)	29 (1.142)	51 (2.008)	58 (2.283)	74 (2.913)	103 (4.055)	212 (8.346)	CØ15.4
010100105	CM5 / *MT5*	78 (3.071)	34 (1.339)	58 (2.283)	64,5 (2.539)	87 (3.425)	133 (5.236)	259 (10.197)	CØ20.3
010100106	CM6 / *MT6*	119 (4.685)	43 (1.693)	71 (2.795)	96 (3.780)	130 (5.118)	187 (7.362)	354 (13.937)	CØ28

NOTA: Per le cuspidi intercambiabili, vedi paragrafo "serie FR" (vedi pagine 16 e 17).
NOTE: *For the interchangeable centers, see "FR series" paragraph (see pages 16 and 17).*

CONTROPUNTE PER TORNITURA - SERIE 2000 ECOLINE
LIVE CENTERS FOR TURNING - 2000 SERIES ECOLINE

< 0.003

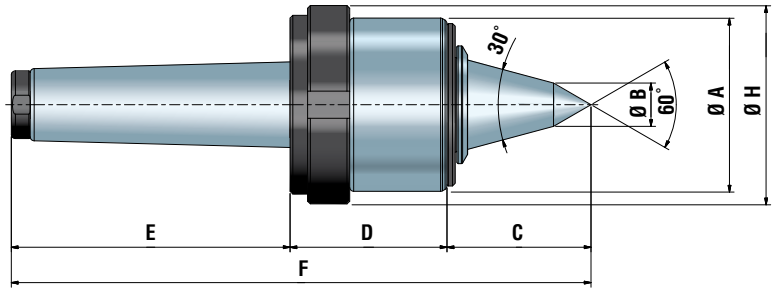


		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*						
		Ø A	Ø B	C	D	E	F	Ø H
010100123	CM3 / *MT3*	56 (2.205)	29 (1.142)	37 (1.457)	53 (2.087)	86 (3.386)	176 (6.929)	64 (2.520)
010100124	CM4 / *MT4*	64 (2.520)	33 (1.299)	41 (1.614)	58 (2.283)	103 (4.055)	202 (7.953)	74 (2.913)
010100125	CM5 / *MT5*	78 (3.071)	36 (1.417)	47 (1.850)	64,5 (2.539)	133 (5.236)	247 (9.724)	87 (3.425)
010100126	CM6 / *MT6*	119 (4.685)	57,5 (2.264)	69 (2.717)	96 (3.780)	187 (7.362)	352 (13.858)	130 (5.118)

CONTROPUNTE PER TORNITURA - SERIE 2000 ECOLINE
LIVE CENTERS FOR TURNING - 2000 SERIES ECOLINE

2000 SERIE *SERIES*

< 0.003

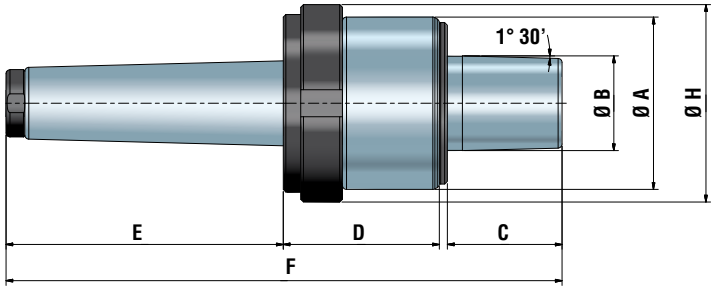


		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*						
		Ø A	Ø B	C	D	E	F	Ø H
010100113	CM3 / *MT3*	56 (2.205)	14 (0.551)	47 (1.850)	53 (2.087)	86 (3.386)	186 (7.332)	64 (2.520)
010100114	CM4 / *MT4*	64 (2.520)	16 (0.630)	53 (2.087)	58 (2.283)	103 (4.055)	214 (8.425)	74 (2.913)
010100115	CM5 / *MT5*	78 (3.071)	16 (0.630)	66 (2.598)	64,5 (2.539)	133 (5.236)	267 (10.512)	87 (3.425)
010100116	CM6 / *MT6*	119 (4.685)	25 (0.984)	102 (4.016)	96 (3.780)	187 (7.362)	385 (15.157)	130 (5.118)

CONTROPUNTE PER TORNITURA DI TUBI - SERIE 2000-T ECOLINE
LIVE CENTERS FOR PIPES TURNING - 2000-T SERIES ECOLINE

2000-T

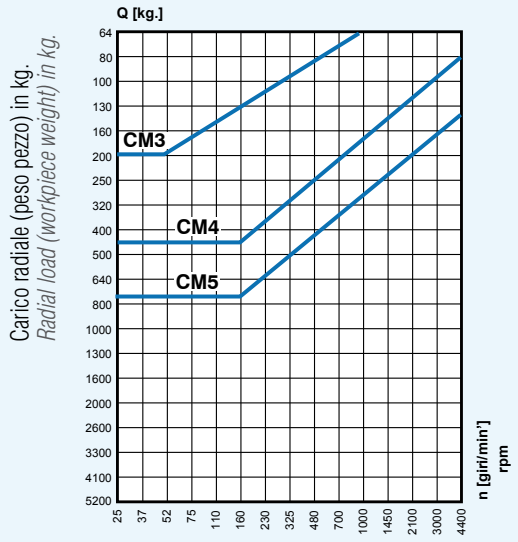
< 0.010

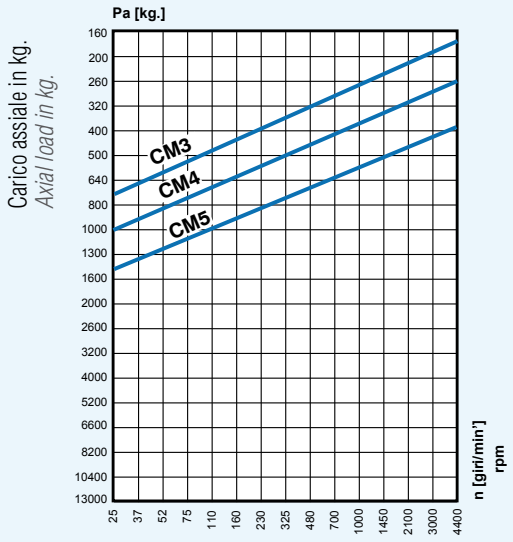


		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*						
		Ø A	Ø B	C	D	E	F	Ø H
010100134	CM4 / *MT4*	64 (2.520)	35 (1.378)	43 (1.693)	58 (2.283)	103 (4.055)	207 (8.150)	74 (2.913)
010100135	CM5 / *MT5*	78 (3.071)	35 (1.378)	44 (1.732)	64,5 (2.539)	133 (5.236)	249 (9.803)	87 (3.425)
010100136	CM6 / *MT6*	119 (4.685)	35 (1.378)	42 (1.654)	96 (3.780)	187 (7.362)	330 (12.992)	130 (5.118)

NOTA: Per anelli conici, vedi paragrafo "serie AC" (vedi pagina 31).
NOTE: *For heads, see "AC series" paragraph (see page 31).*

DIAGRAMMI DI CARICO *LOAD CHARTS*





VALORI INDICATIVI.
Per maggiori indicazioni su utilizzo delle contropunte contattare il nostro servizio tecnico.

INDICATIVE VALUES.
For further and more detailed information, please contact our technical office.

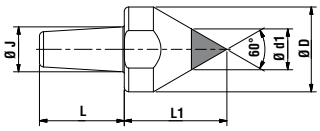
CUSPIDI INTERCAMBIABILI PER CONTROPUNTE / PUNTE FISSE - SERIE FR
INTERCHANGEABLE CENTERS FOR LIVE CENTERS / DEAD CENTERS - FR SERIES

TABELLA GENERALE PER L'UTILIZZO DELLE CUSPIDI NELLE VARIE SERIE
GENERAL TABLE FOR THE INTERCHANGEABLE CENTERS USE IN THE VARIOUS SERIES

		80	85	2006	81R	2000
FR 94		●	●	solo cuspidi **CØ15.4** *centers only*	solo cuspidi **CØ15.4** *centers only*	●
FR 95 FR 95 HM		●	●			
FR 96		●	●			
FR 97 FR 97 HM	Ø 7	●	●	solo cuspidi **CØ15.4** *centers only*	solo cuspidi **CØ15.4** *centers only*	●
	Ø 13	●	●	-	-	-
	Ø 15	●	●	solo cuspidi **CØ15.4** *centers only*	solo cuspidi **CØ15.4** *centers only*	●
	Ø 20	●	●	-	-	-
FR 98		●	●	solo cuspidi **CØ15.4** *centers only*	solo cuspidi **CØ15.4** *centers only*	●
FR 98-A		●	●			
FR 99		●	●			

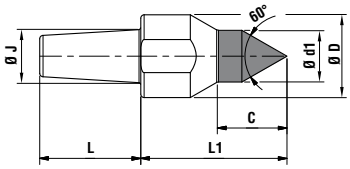
● **Verificare nella tabella della relativa contropunta che "Ø J" scegliere.**
Check in the table of the related live center which "Ø J" to choose.

FR 95 HM



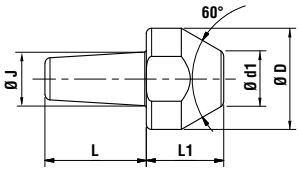
		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*				
		Ø D	L1	L	Ø J	Ø d1
030316514	CØ15,4	29 (1.142)	35 (1.378)	29 (1.142)	15,4 (0.606)	14 (0.551)
030316515	CØ20,3	34 (1.339)	39 (1.535)	30 (1.181)	20,3 (0.799)	16 (0.630)

FR 97 HM



		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*					
		Ø D	L1	L	C	Ø J	Ø d1
030318514	CØ15,4	29 (1.142)	41,5 (1.634)	29 (1.142)	20 (0.787)	15,4 (0.606)	15 (0.591)
030318515	CØ20,3	34 (1.339)	46 (1.811)	30 (1.181)	20 (0.787)	20,3 (0.799)	15 (0.591)

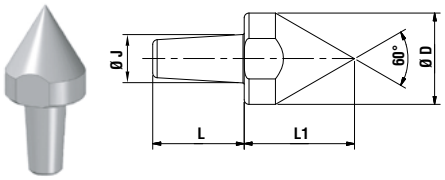
FR 94



		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*				
		Ø D	L1	L	Ø J	Ø d1
030315103	CØ13.5	26 (1.024)	21 (0.827)	28 (1.102)	13,5 (0.531)	13 (0.512)
030315204	CØ15.4	29 (1.142)	22 (0.866)	29 (1.142)	15,4 (0.606)	15 (0.591)
030315305	CØ20.3	34 (1.339)	26,5 (1.043)	30 (1.181)	20,3 (0.799)	15 (0.591)
030315406	CØ28	43 (1.693)	27 (1.063)	40 (1.575)	28 (1.102)	23 (0.906)

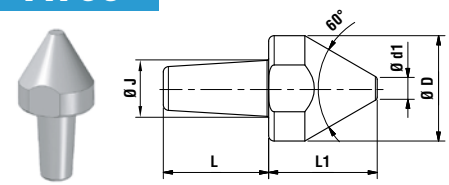
CUSPIDI INTERCAMBIABILI PER CONTROPUNTE / PUNTE FISSE - SERIE FR
INTERCHANGEABLE CENTERS FOR LIVE CENTERS / DEAD CENTERS - FR SERIES

FR 95



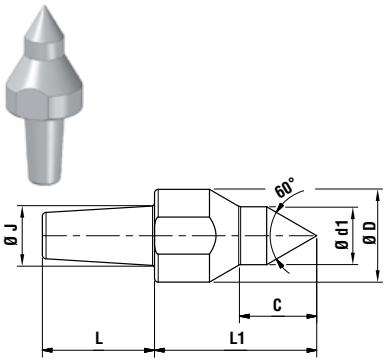
		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*			
		Ø D	L1	L	Ø J
030316002	CØ13.5	21 (0.827)	26 (1.024)	28 (1.102)	13,5 (0.531)
030316103	CØ13.5	26 (1.024)	32,5 (1.280)	28 (1.102)	13,5 (0.531)
030316204	CØ15.4	29 (1.142)	35 (1.378)	29 (1.142)	15,4 (0.606)
030316305	CØ20.3	34 (1.339)	39,5 (1.555)	30 (1.181)	20,3 (0.799)
030316406	CØ28	43 (1.693)	47 (1.850)	40 (1.575)	28 (1.102)

FR 96



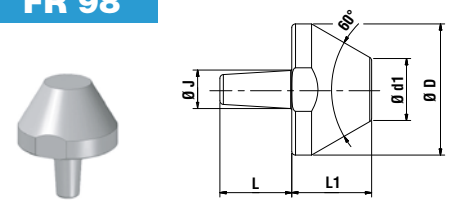
		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*				
		Ø D	L1	L	Ø J	Ø d1
030317103	CØ13.5	26 (1.024)	28 (1.102)	28 (1.102)	13,5 (0.531)	5 (0.197)
030317204	CØ15.4	29 (1.142)	30 (1.181)	29 (1.142)	15,4 (0.606)	6 (0.236)
030317305	CØ20.3	34 (1.339)	33,5 (1.319)	30 (1.181)	20,3 (0.799)	7 (0.276)
030317406	CØ28	43 (1.693)	36 (1.417)	40 (1.575)	28 (1.102)	13 (0.512)

FR 97



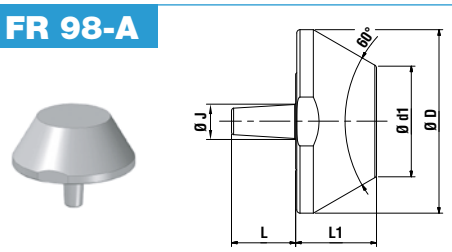
Ø			Dimensioni in mm (pollici) / *Dimensions in mm (inch)*					
			Ø D	L1	L	C	Ø J	Ø d1
7	030318103	CØ13.5	26 (1.024)	39,5 (1.555)	28 (1.102)	13 (0.512)	13,5 (0.531)	7 (0.276)
	030318204	CØ15.4	29 (1.142)	42 (1.654)	29 (1.142)	13 (0.512)	15,4 (0.606)	7 (0.276)
	030318305	CØ20.3	34 (1.339)	46 (1.811)	30 (1.181)	13 (0.512)	20,3 (0.799)	7 (0.276)
13	030318406	CØ28	43 (1.693)	61 (2.402)	40 (1.575)	25 (0.984)	28 (1.102)	13 (0.512)
15	030318113	CØ13.5	26 (1.024)	39,5 (1.555)	28 (1.102)	20 (0.787)	13,5 (0.531)	15 (0.591)
	030318214	CØ15.4	29 (1.142)	42 (1.654)	29 (1.142)	20 (0.787)	15,4 (0.606)	15 (0.591)
	030318315	CØ20.3	34 (1.339)	46 (1.811)	30 (1.181)	20 (0.787)	20,3 (0.799)	15 (0.591)
20	030318416	CØ28	43 (1.693)	61 (2.402)	40 (1.575)	31 (1.220)	28 (1.102)	20 (0.787)

FR 98



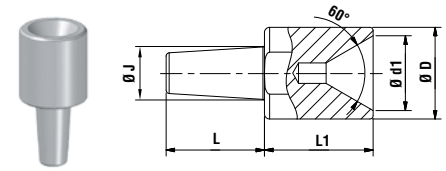
		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*				
		Ø D	L1	L	Ø J	Ø d1
030319103	CØ13.5	53 (2.087)	32,5 (1.280)	28 (1.102)	13,5 (0.531)	25 (0.984)
030319204	CØ15.4	53 (2.087)	32,5 (1.280)	29 (1.142)	15,4 (0.606)	25 (0.984)
030319305	CØ20.3	53 (2.087)	32,5 (1.280)	30 (1.181)	20,3 (0.799)	25 (0.984)
030319406	CØ28	73 (2.874)	35 (1.378)	40 (1.575)	28 (1.102)	42 (1.654)

FR 98-A



		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*				
		Ø D	L1	L	Ø J	Ø d1
030319113	CØ13.5	83 (3.268)	36,6 (1.441)	28 (1.102)	13,5 (0.531)	50 (1.969)
030319214	CØ15.4	83 (3.268)	36,6 (1.441)	29 (1.142)	15,4 (0.606)	50 (1.969)
030319315	CØ20.3	83 (3.268)	36,6 (1.441)	30 (1.181)	20,3 (0.799)	50 (1.969)
030319416	CØ28	103 (4.055)	36,6 (1.441)	40 (1.575)	28 (1.102)	70 (2.756)

FR 99



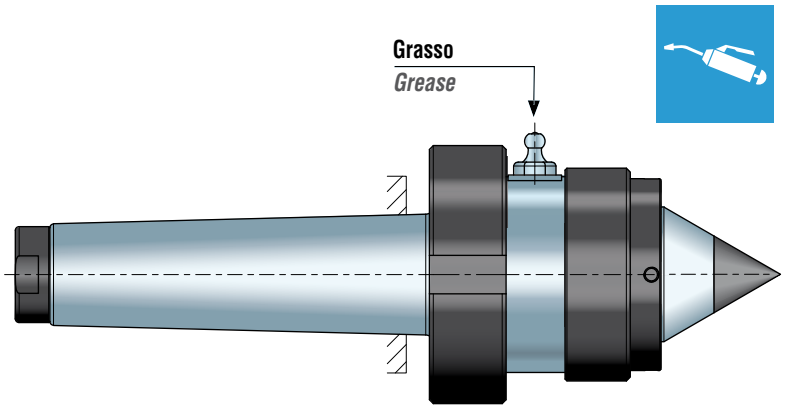
		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*				
		Ø D	L1	L	Ø J	Ø d1
030320103	CØ13.5	24 (0.945)	29 (1.142)	28 (1.102)	13,5 (0.531)	20 (0.787)
030320204	CØ15.4	27 (1.063)	32 (1.260)	29 (1.142)	15,4 (0.606)	22 (0.866)
030320305	CØ20.3	34 (1.339)	40 (1.575)	30 (1.181)	20,3 (0.799)	22 (0.866)
030320406	CØ28	48 (1.890)	46 (1.811)	40 (1.575)	28 (1.102)	40 (1.575)

CONTROPUNTE ROTANTI PER RETTIFICA - SERIE 92
LIVE CENTERS FOR GRINDING - 92 SERIES

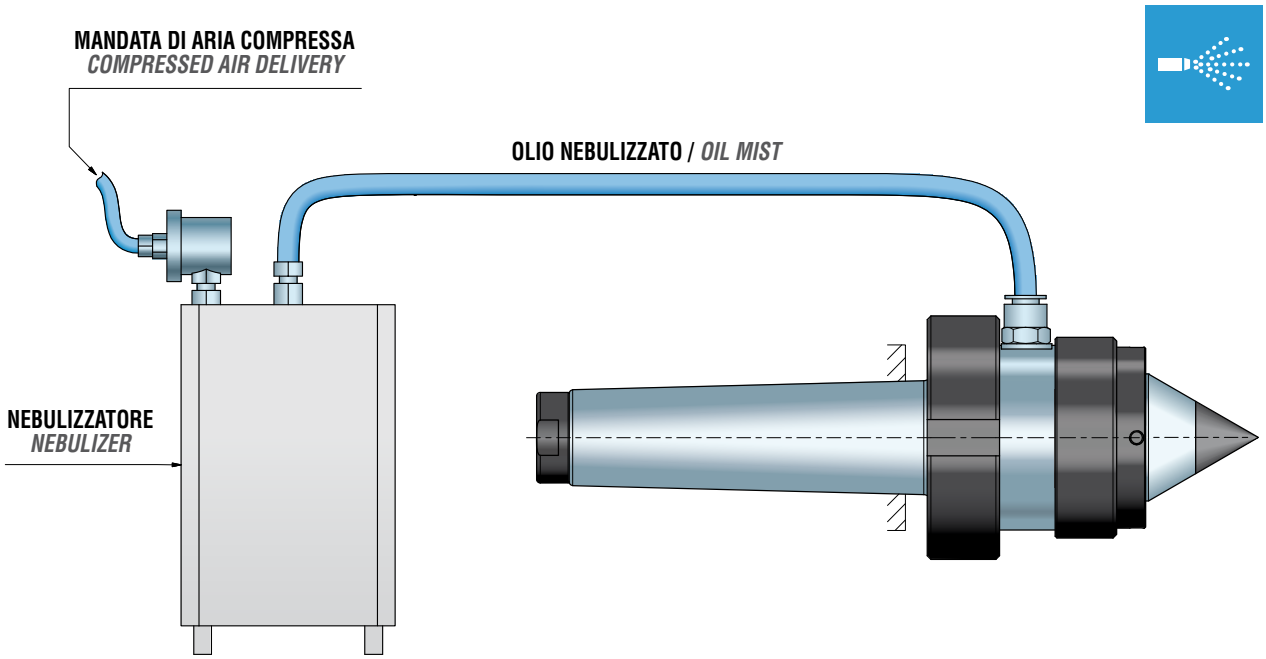
ISTRUZIONI PER MANUTENZIONE CONTROPUNTE LUBRIFICATE A GRASSO
INSTRUCTIONS FOR MAINTENANCE OF GREASE LUBRICATED LIVE CENTERS

Ogni 150 ore di lavoro lubrificare con GRASSO MOLYKOTE BR 2 PLUS dall'apposito raccordo

Every 150 working hours lubricate with GREASE MOLYKOTE BR 2 PLUS through the suitable fitting.



SISTEMA DI LUBRIFICAZIONE AD OLIO NEBULIZZATO
OIL MIST LUBRICATION SYSTEM



Per un corretto utilizzo si raccomanda che l'impianto di nebulizzazione (non di nostra fornitura) sia esclusivamente per la contropunta.
Oil mist system (not supplied) must be used for the live center only.

Sistemi per lubrificazione contropunta ad olio nebulizzato:

1° tipo: Apparecchio a totale consumo goccia erogata.
Pressione: 1.5 ÷ 2 bar
Gocce di olio al minuto: 2 ÷ 3
2° tipo: Apparecchio con consumo del 10% della goccia erogata e recupero del 90% della stessa.
Pressione: 3 ÷ 4 bar
Gocce di olio al minuto: 20 ÷ 30
(Per la lubrificazione ad olio nebulizzato si raccomanda che il circuito sia esclusivamente per la contropunta).
Olio consigliato Mobil DTE Oil Medium viscosità ISO 46 o DTE Light ISO 32

Oil mist lubrication systems:

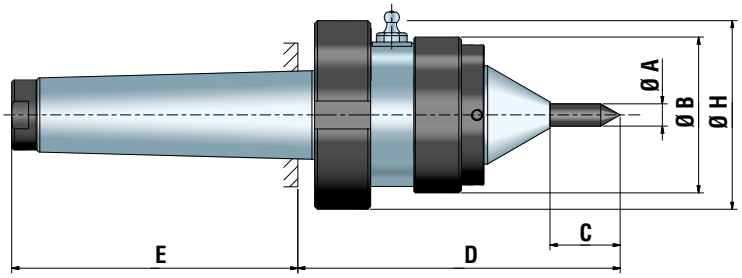
1° type: Fixture with total consumption of the delivery drop.
Pressure: 1.5 ÷ 2 bar
Drops of oil per minute: 2 ÷ 3
2° type: Fixture with a 10% consumption of the delivery drop and recovery of 90% of the drop.
Pressure: 3 ÷ 4 bar
Drops of oil per minute: 20 ÷ 30
(Oil mist system must be used for the live center only)
Recommended oil: Mobil DTE Oil Medium viscosity: ISO 46 or DTE Light ISO 32

CONTROPUNTE ROTANTI PER RETTIFICA - SERIE 92
LIVE CENTERS FOR GRINDING - 92 SERIES

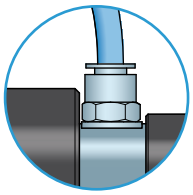
< 0.0025

< 0.0015

Lubrificate a grasso
Grease lubricated



Lubrificazione ad olio nebulizzato
Oil mist lubrication system

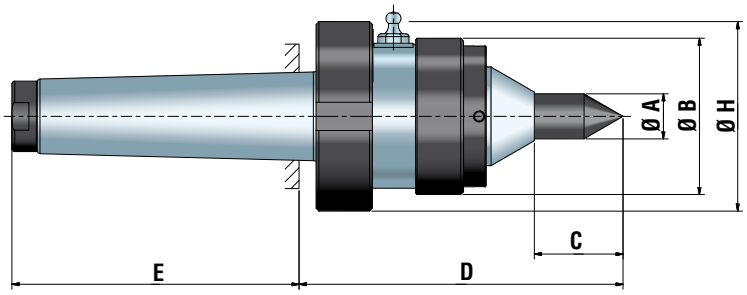


			Dimensioni in mm (pollici) / *Dimensions in mm (inch)*					
			Ø A	Ø B	C	D	E	Ø H
010921101	**010921113**	CM3/*MT3*	8 (0.315)	51 (2.008)	25 (0.984)	100 (3.937)	81,7 (3.217)	61 (2.402)
010921102	**010921114**	CM4/*MT4*	8 (0.315)	55,5 (2.185)	25 (0.984)	115 (4.528)	102 (4.016)	68 (2.677)
010921103	**010921115**	CM5/*MT5*	12 (0.472)	69,5 (2.736)	28,5 (1.122)	129 (5.079)	127 (5.000)	84 (3.307)

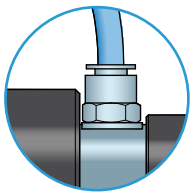
< 0.0025

< 0.0015

Lubrificate a grasso
Grease lubricated



Lubrificazione ad olio nebulizzato
Oil mist lubrication system

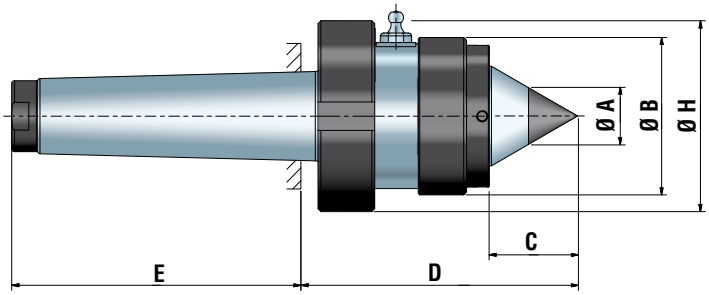


			Dimensioni in mm (pollici) / *Dimensions in mm (inch)*					
			Ø A	Ø B	C	D	E	Ø H
010922101	**010921123**	CM3/*MT3*	16 (0.630)	51 (2.008)	31,5 (1.240)	100 (3.937)	81,7 (3.217)	61 (2.402)
010922102	**010921124**	CM4/*MT4*	16 (0.630)	55,5 (2.185)	31,5 (1.240)	115 (4.528)	102 (4.016)	68 (2.677)
010922103	**010921125**	CM5/*MT5*	20 (0.787)	69,5 (2.736)	35,5 (1.398)	129 (5.079)	127 (5.000)	84 (3.307)

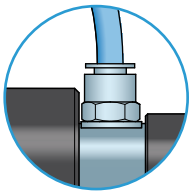
< 0.0025

< 0.0015

Lubrificate a grasso
Grease lubricated



Lubrificazione ad olio nebulizzato
Oil mist lubrication system

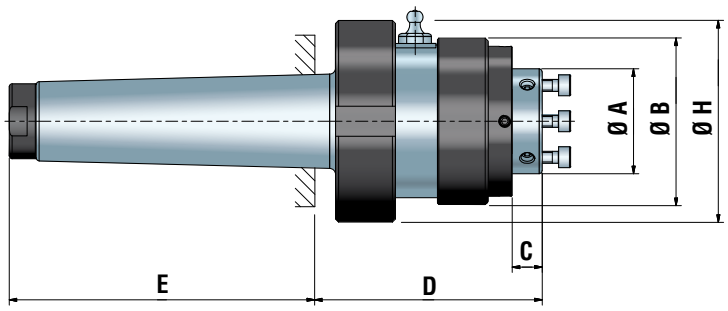


			Dimensioni in mm (pollici) / *Dimensions in mm (inch)*					
			Ø A	Ø B	C	D	E	Ø H
010923101	**010921133**	CM3/*MT3*	16 (0.630)	51 (2.008)	24,2 (0.953)	83 (3.268)	81,7 (3.217)	61 (2.402)
010923102	**010921134**	CM4/*MT4*	20 (0.787)	55,5 (2.185)	31 (1.220)	97 (3.819)	102 (4.016)	68 (2.677)
010923103	**010921135**	CM5/*MT5*	26 (1.024)	69,5 (2.736)	42,5 (1.673)	111 (4.370)	127 (5.000)	84 (3.307)

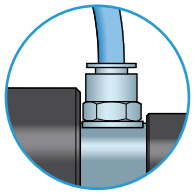
CONTROPUNTE PORTA CUSPIDI PER RETTIFICA - SERIE 92F
CENTERS CARRYING LIVE CENTERS FOR GRINDING - 92F SERIES

< 0.0015

Lubrificate a grasso
Grease lubricated



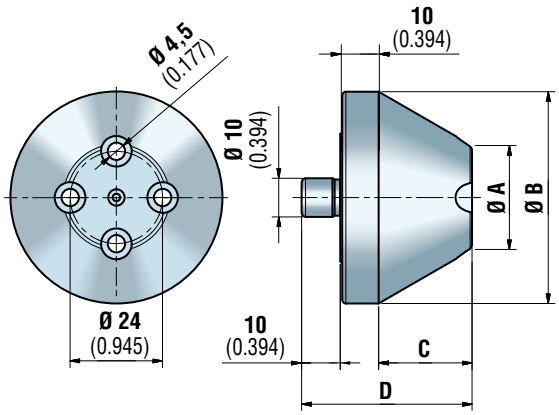
Lubrificazione ad olio nebulizzato
Oil mist lubrication system



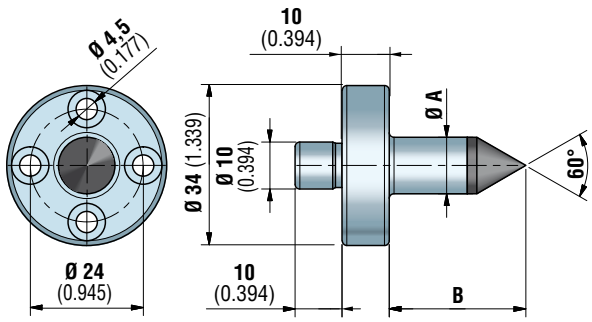
			Dimensioni in mm (pollici) / *Dimensions in mm (inch)*					
			Ø A	Ø B	C	D	E	Ø H
010925101	010921153	CM3/*MT3*	32 (1.260)	49 (1.929)	10 (0.394)	68,5 (2.697)	81,7 (3.217)	61 (2.402)
010925102	010921154	CM4/*MT4*	35 (1.378)	55,5 (2.185)	10 (0.394)	76 (2.992)	102 (4.016)	68 (2.677)
010925103 *	010921155 *	CM5/*MT5*	48 (1.890)	69,5 (2.736)	10 (0.394)	79 (3.110)	127 (5.000)	84 (3.307)

*** Cuspidi per contropunta CM5 disponibili su richiesta**
** Centers for live centers MT5 available on request*

CUSPIDI PER CONTROPUNTE PER RETTIFICA SERIE 92F CM3 E CM4
CENTERS FOR LIVE CENTERS FOR GRINDING 92F SERIES MT3 AND MT4



	Dimensioni in mm (pollici) / *Dimensions in mm (inch)*			
	Ø A	Ø B	C	D
030392005	7 (0.276)	34 (1.339)	23,4 (0.921)	43,4 (1.709)
030392006	27 (1.063)	55 (2.165)	24,2 (0.953)	44,2 (1.740)
030392007	40 (1.575)	68 (2.677)	24,2 (0.953)	44,2 (1.740)
030392008	60 (2.362)	88 (3.465)	24,2 (0.953)	44,2 (1.740)

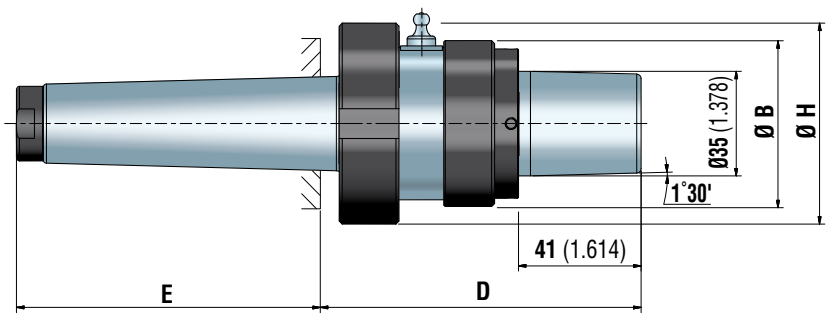


	Dimensioni in mm (pollici) / *Dimensions in mm (inch)*	
	Ø A	B
030392001	8 (0.315)	25 (0.984)
030392002	10 (0.394)	27 (1.063)
030392003	12 (0.472)	29 (1.142)
030392004	16 (0.630)	32 (1.260)

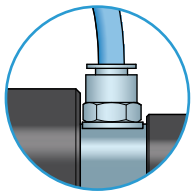
CONTROPUNTE PORTA ANELLI CONICI PER RETTIFICA TUBI - SERIE 92M
HEAD CARRYING LIVE CENTER FOR PIPES GRINDING - 92M SERIES

< 0.0015

Lubrificate a grasso
Grease lubricated



Lubrificazione ad olio nebulizzato
Oil mist lubrication system

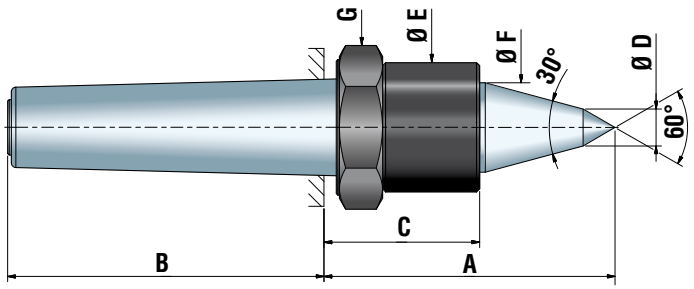


			Dimensioni in mm (pollici) / *Dimensions in mm (inch)*			
			Ø B	D	E	Ø H
010924102	**010921144**	CM4/*MT4*	55,5 (2.185)	107 (4.213)	102 (4.016)	68 (2.677)
010924103	**010921145**	CM5/*MT5*	69,5 (2.736)	111 (4.370)	127 (5.000)	84 (3.307)

NOTA: Per anelli conici, vedi paragrafo "serie AC" (vedi pagina 31).
NOTE: *For heads, see "AC series" paragraph (see page 31).*

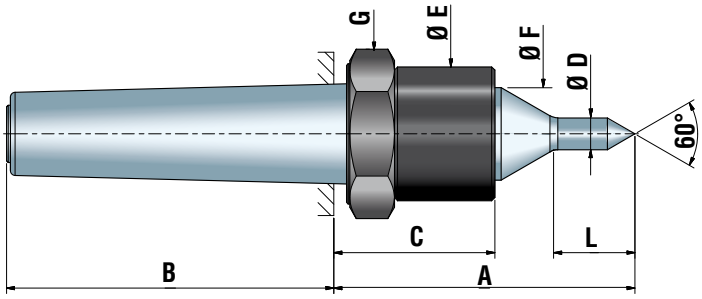
CONTROPUNTE ROTANTI PER DENTATURA - SERIE 82
LIVE CENTER FOR GEAR CUTTING MACHINE - 82 SERIES

< 0.005



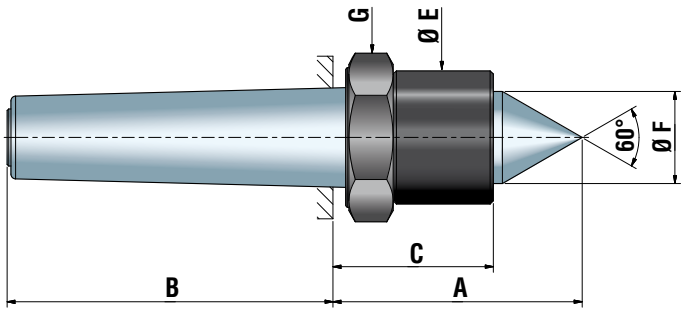
		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*						
		A	B	C	Ø D	Ø E	Ø F	G
010182036	CM3 / MT3	93 (3.661)	84,2 (3.315)	49 (1.929)	12 (0.472)	42 (1.654)	29 (1.142)	53 (2.087)
010182046	CM4 / MT4	94,5 (3.720)	102,7 (4.043)	50,5 (1.988)	12 (0.472)	42 (1.654)	29 (1.142)	53 (2.087)
010182056	CM5 / MT5	129 (5.079)	129 (5.079)	57,5 (2.264)	15 (0.591)	62 (2.441)	45 (1.772)	74 (2.913)

< 0.005



		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*							
		A	B	C	Ø D	Ø E	Ø F	G	L
010182034	CM3 / *MT3*	93 (3.661)	84,2 (3.315)	49 (1.929)	10 (0.394)	42 (1.654)	29 (1.142)	53 (2.087)	25,6 (1.008)
010182035					15 (0.591)				30 (1.181)
010182044	CM4 / *MT4*	94,5 (3.720)	102,7 (4.043)	50,5 (1.988)	10 (0.394)	42 (1.654)	29 (1.142)	53 (2.087)	25,6 (1.008)
010182045					15 (0.591)				30 (1.181)
010182054	CM5 / *MT5*	116 (4.567)	129 (5.079)	57,5 (2.264)	10 (0.394)	62 (2.441)	45 (1.772)	74 (2.913)	25,6 (1.008)
010182055					15 (0.591)				30 (1.181)

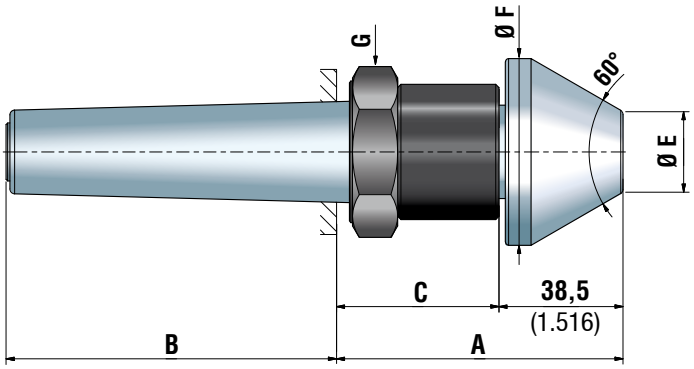
< 0.005



		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*					
		A	B	C	Ø E	Ø F	G
010182031	CM3 / *MT3*	77 (3.031)	84,2 (3.315)	49 (1.929)	42 (1.654)	29 (1.142)	53 (2.087)
010182041	CM4 / *MT4*	78,5 (3.091)	102,7 (4.043)	50,5 (1.988)	42 (1.654)	29 (1.142)	53 (2.087)
010182051	CM5 / *MT5*	99 (3.898)	129 (5.079)	57,5 (2.264)	62 (2.441)	45 (1.772)	74 (2.913)

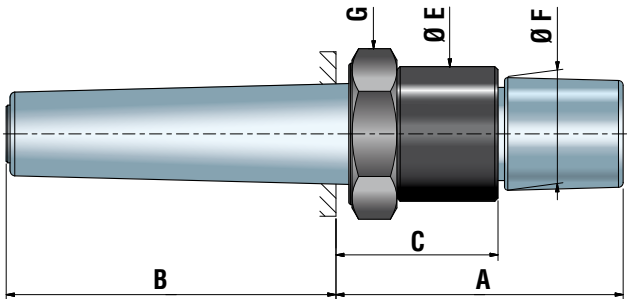
CONTROPUNTE ROTANTI PER DENTATURA TUBI - SERIE 82-T
LIVE CENTER FOR PIPES TOOTHING MACHINE - 82-T SERIES

< 0.005



		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*					
		A	B	C	Ø E	Ø F	G
010182037	CM3 / *MT3*	87,5 (3.445)	84,2 (3.315)	49 (1.929)	25 (0.984)	58 (2.283)	53 (2.087)
010182047	CM4 / *MT4*	89 (3.504)	102,7 (4.043)	50,5 (1.988)	25 (0.984)	58 (2.283)	53 (2.087)
010182057	CM5 / *MT5*	96 (3.780)	129 (5.079)	57,5 (2.264)	35 (1.378)	68 (2.677)	74 (2.913)

< 0.010



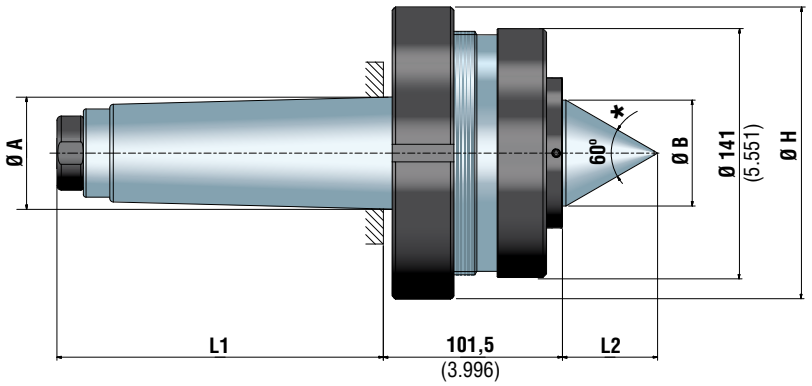
		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*					
		A	B	C	Ø E	Ø F	G
010182033	CM3 / *MT3*	88 (3.465)	84,2 (3.315)	49 (1.929)	42 (1.654)	35 (1.378)	53 (2.087)
010182043	CM4 / *MT4*	89,5 (3.524)	102,7 (4.043)	50,5 (1.988)	42 (1.654)	35 (1.378)	53 (2.087)
010182053	CM5 / *MT5*	101 (3.976)	129 (5.079)	57,5 (2.264)	62 (2.441)	35 (1.378)	74 (2.913)

NOTA: Per anelli conici, vedi paragrafo "serie AC" (vedi pagina 31).
NOTE: *For heads, see "AC series" paragraph (see page 31).*

CONTROPUNTE ROTANTI PER CARICHI PESANTI PER TORNITURA E RETTIFICA - SERIE 88
HEAVY LOADS LIVE CENTER FOR TURNING AND GRINDING - 88 SERIES

88 SERIE *SERIES*

< 0.005



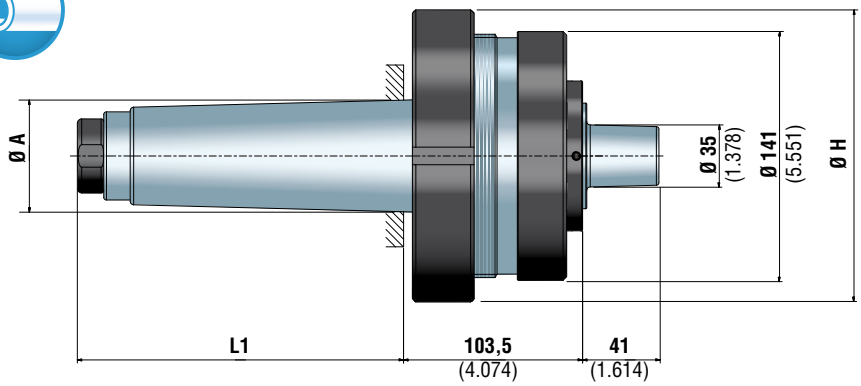
* A RICHIESTA 75°/90°
ON REQUEST 75°/90°

		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*					Kg / Lb	Kg / Lb	r.p.m. max.
		A	B	L1	L2	Ø H			
010921104	CM6 / *MT6*	63,348 (2.494)	60 (2.362)	185 (7.283)	54 (2.126)	166 (6.535)	12.000 / 26,455	9.000 / 19,842	500
010921105	CM7 / *MT7*	83,061 (3.270)	80 (3.150)	232 (9.134)	71,3 (2.807)	166 (6.535)	12.000 / 26,455	16.000 / 35,274	500
010921106	M80 / *MT80*	80 (3.150)	80 (3.150)	196 (7.717)	71,3 (2.807)	166 (6.535)	12.000 / 26,455	16.000 / 35,274	500
010921107	M100 / *MT100*	100 (3.937)	80 (3.150)	232 (9.134)	71,3 (2.807)	166 (6.535)	12.000 / 26,455	16.000 / 35,274	500
010921108	M120 / *MT120*	120 (4.724)	80 (3.150)	247 (9.724)	70 (2.756)	170 (6.693)	12.000 / 26,455	16.000 / 35,274	500
010921109	M160 / *MT160*	Su richiesta / *on request*							

CONTROPUNTE ROTANTI PER CARICHI PESANTI PER TORNITURA E RETTIFICA TUBI - SERIE 88-T
HEAVY LOADS LIVE CENTER FOR PIPES TURNING AND GRINDING - 88-T SERIES

88-T SERIE *SERIES*

< 0.010

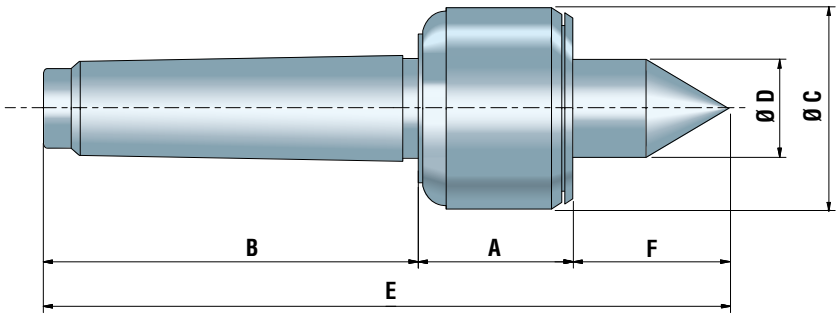


		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*			Kg / Lb	Kg / Lb	r.p.m. max.
		A	L1	Ø H			
010922104	CM6 / *MT6*	63,348 (2.494)	185 (7.283)	166 (6.535)	12.000 / 26,455	9.000 / 19,842	500
010922105	CM7 / *MT7*	83,061 (3.270)	232 (9.134)	166 (6.535)	12.000 / 26,455	16.000 / 35,274	500
010922106	M80 / *MT80*	80 (3.150)	196 (7.717)	166 (6.535)	12.000 / 26,455	16.000 / 35,274	500
010922107	M100 / *MT100*	100 (3.937)	232 (9.134)	166 (6.535)	12.000 / 26,455	16.000 / 35,274	500
010922108	M120 / *MT120*	120 (4.724)	247 (9.724)	170 (6.693)	12.000 / 26,455	16.000 / 35,274	500

NOTA: Per anelli conici, vedi paragrafo "serie AC" (vedi pagina 31).
NOTE: *For heads, see "AC series" paragraph (see page 31).*

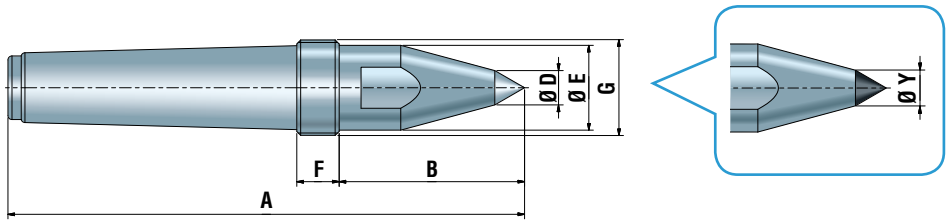
CONTROPUNTE ROTANTI “RAPIDO”
“RAPIDO” LIVE CENTERS

< 0.005



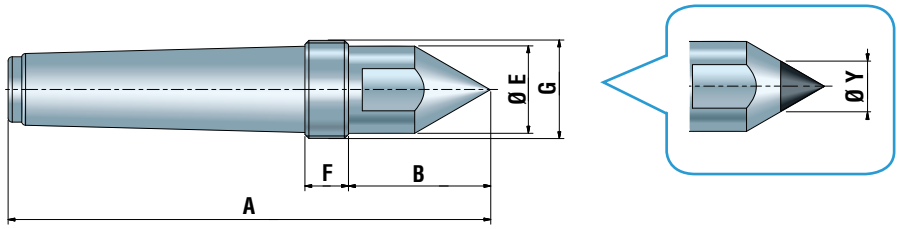
		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*						r.p.m. max.
		A	B	Ø C	Ø D	E	F	
010167013	CM1 / *MT1*	38 (1.496)	60 (2.362)	34 (1.339)	14 (0.551)	121 (4.764)	23 (0.906)	9.000
010167023	CM2 / *MT2*	37 (1.457)	70 (2.756)	44 (1.732)	21 (0.827)	140 (5.512)	32 (1.260)	8.000
010167033	CM3 / *MT3*	40 (1.575)	87 (3.425)	49 (1.929)	24 (0.945)	166 (6.535)	39 (1.535)	7.000
010167043	CM4 / *MT4*	46 (1.811)	116 (4.567)	61 (2.402)	31 (1.220)	211 (8.307)	49 (1.929)	6.000
010167053	CM5 / *MT5*	52 (2.047)	142 (5.591)	75 (2.953)	37 (1.457)	249 (9.803)	55 (2.165)	4.000
010167063	CM6 / *MT6*	66 (2.598)	190 (7.480)	89 (3.504)	44 (1.732)	319 (12.559)	63 (2.480)	2.000

PUNTE FISSE CON FILETTO DI ESTRAZIONE - SERIE PF
DEAD CENTERS WITH EXTRACTION THREAD - PF SERIES



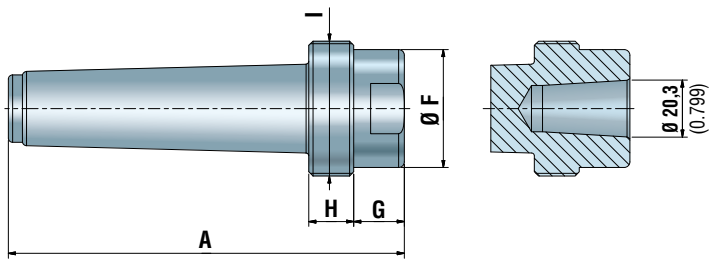
VERSIONE CON METALLO DURO
VERSION WITH HARD METAL

			Dimensioni in mm (pollici) / *Dimensions in mm (inch)*						Ø Y (H.M.) / *Ø Y (M.D.)*
			A	B	Ø D	Ø E	F	G	
121248003	**124100103**	CM3 / *MT3*	145 (5.709)	45 (1.772)	13 (0.512)	24 (0.945)	15 (0.591)	M36 X 1,5	12 (0.472)
121248004	**124100104**	CM4 / *MT4*	195 (7.677)	70 (2.756)	13 (0.512)	32 (1.260)	16 (0.630)	M36 X 1,5	14 (0.551)
121248105	**124100105**	CM5 / *MT5*	230 (9.055)	74 (2.913)	20 (0.787)	42 (1.654)	16 (0.630)	M48 X 1,5	16 (0.630)



VERSIONE CON METALLO DURO
VERSION WITH HARD METAL

			Dimensioni in mm (pollici) / *Dimensions in mm (inch)*					Ø Y (H.M.) / *Ø Y (M.D.)*
			A	B	Ø E	F	G	
124300243	**124200183**	CM3 / *MT3*	138 (5.433)	38 (1.496)	24 (0.945)	15 (0.591)	M36 X 1,5	18 (0.709)
124300324	**124200264**	CM4 / *MT4*	177 (6.969)	52 (2.047)	32 (1.260)	16 (0.630)	M36 X 1,5	26 (1.024)
124300425	**124200305**	CM5 / *MT5*	220 (8.661)	64 (2.520)	42 (1.654)	16 (0.630)	M48 X 1,5	30 (1.181)
124300646	-	CM6 / *MT6*	294 (11.575)	70 (2.756)	64 (2.520)	30 (1.181)	M69 X 2	-
-	**124200406**	CM6 / *MT6*	290 (11.417)	80 (3.150)	64 (2.520)	20 (0.787)	M69 X 2	40 (1.575)

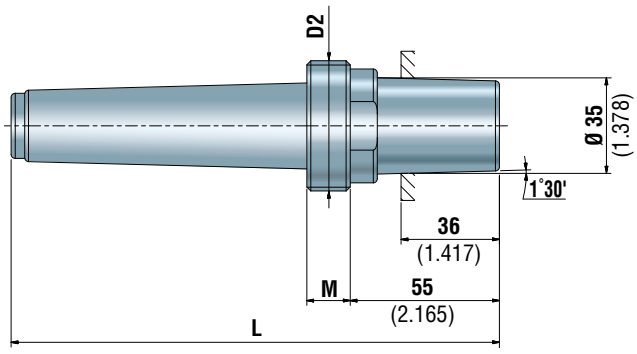


		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*				
		A	Ø F	G	H	I
122100926	CM3 / *MT3*	110 (4.331)	42 (1.654)	10 (0.394)	10 (0.394)	M48 X 1,5
122100927	CM4 / *MT4*	141 (5.551)	42 (1.654)	18 (0.709)	16 (0.630)	M48 X 1,5
122100928	CM5 / *MT5*	174 (6.850)	42 (1.654)	18 (0.709)	16 (0.630)	M48 X 1,5

UNICHE CUSPIDI MONTABILI CØ20,3 / ***ONLY MOUNTABLE CENTERS CØ20.3***	
030315305	**FR 94**
030316305	**FR 95**
030317305	**FR 96**
030318305	**FR 97 Ø 7**
030318315	**FR 97 Ø 15**
030319305	**FR 98**
030319315	**FR 98-A**
030320305	**FR 99**

NOTA: Punta fissa CM6 porta cuspide disponibile su richiesta.
NOTE: Center carrying dead center MT6 available on request.

PUNTE FISSE PORTA ANELLI CONICI CON FILETTO DI ESTRAZIONE PER TORNITURA TUBI - SERIE PF
HEAD CARRYING DEAD CENTER WITH EXTRACTION THREAD FOR PIPE TURNING - PF SERIES



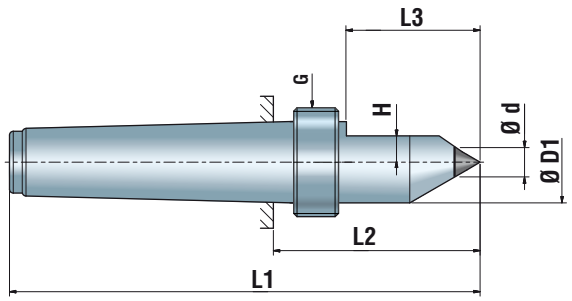
		Dimensioni in mm (pollici) *Dimensions in mm (inch)*		
		D2	L	M
123100926	CM3 / *MT3*	M48 X 1,5	155 (6.102)	14 (0.551)
123100927	CM4 / *MT4*	M48 X 1,5	180 (7.087)	16 (0.630)
123100928	CM5 / *MT5*	M48 X 1,5	211 (8.307)	16 (0.630)
123100929	CM6 / *MT6*	M69 X 2	265 (10.433)	20 (0.787)

NOTA: Per anelli conici, vedi paragrafo "serie AC" (vedi pagina 31).
NOTE: *For heads, see "AC series" paragraph (see page 31).*

PF

SERIE *SERIES*

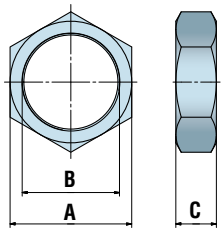
PUNTE FISSE CON CUSPIDE IN METALLO DURO SCARICATE CON FILETTO DI ESTRAZIONE
DEAD CENTERS LOWERED WITH HARD METAL AND EXTRACTION THREAD



VERSIONE CON METALLO DURO
VERSION WITH HARD METAL

		Dimensioni in mm (pollici) / *Dimensions in mm (inch)*						
		Ø d	Ø D1	L1	L2	L3	H	G
191905063	CM3 / *MT3*	6 (0.236)	24 (0.945)	141 (5.551)	61 (2.402)	37 (1.457)	4 (0.157)	M36 X 1,5
191905064	CM4 / *MT4*	6 (0.236)	32 (1.260)	177 (6.969)	76 (2.992)	48 (1.890)	4 (0.157)	M36 X 1,5
191905144	CM4 / *MT4*	14 (0.551)	32 (1.260)	177 (6.969)	76 (2.992)	48 (1.890)	8 (0.315)	M36 X 1,5
191905105	CM5 / *MT5*	10 (0.394)	42 (1.654)	219,5 (8.642)	90 (3.543)	60 (2.362)	6 (0.236)	M48 X 1,5
191905185	CM5 / *MT5*	18 (0.709)	42 (1.654)	219,5 (8.642)	90 (3.543)	60 (2.362)	10 (0.394)	M48 X 1,5

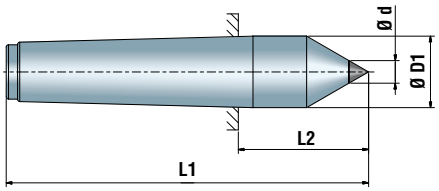
GHIERA DI ESTRAZIONE PER PUNTE FISSE
EXTRACTION NUT FOR DEAD CENTERS



	Dimensioni in mm (pollici) / *Dimensions in mm (inch)*		
	A	B	C
121249004	50 (1.969)	M36 X 1,5	20 (0.787)
121249105	60 (2.362)	M48 X 1,5	20 (0.787)
121249206	80 (3.150)	M69 X 2	28 (1.102)

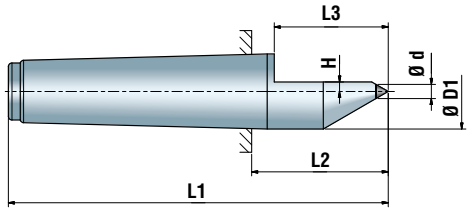
CONTROPUNTE FISSE NORMALI CON CUSPIDE IN METALLO DURO A 60° - SERIE PF
NORMAL DEAD CENTERS WITH A 60° POINT IN HARD METAL - PF SERIES

Tipo "N" (Normale)
Type "N" (Normal)



		Dimensioni in mm (pollici) *Dimensions in mm (inch)*			
		Ø d	Ø D1	L1	L2
1	*191901061	6 (0.236)	12,2 (0.480)	80 (3.150)	26,5 (1.043)
	*191901081	8 (0.315)	12,2 (0.480)	80 (3.150)	26,5 (1.043)
	191901101	10 (0.394)	12,2 (0.480)	80 (3.150)	26,5 (1.043)
2	*191901062	6 (0.236)	18 (0.709)	100 (3.937)	36 (1.417)
	*191901082	8 (0.315)	18 (0.709)	100 (3.937)	36 (1.417)
	*191901102	10 (0.394)	18 (0.709)	100 (3.937)	36 (1.417)
	*191901142	14 (0.551)	18 (0.709)	100 (3.937)	36 (1.417)
	191901182	18 (0.709)	18 (0.709)	100 (3.937)	36 (1.417)
3	*191901063	6 (0.236)	24,1 (0.949)	125 (4.921)	44 (1.732)
	*191901083	8 (0.315)	24,1 (0.949)	125 (4.921)	44 (1.732)
	191901103	10 (0.394)	24,1 (0.949)	125 (4.921)	44 (1.732)
	*191901143	14 (0.551)	24,1 (0.949)	125 (4.921)	44 (1.732)
	*191901183	18 (0.709)	24,1 (0.949)	125 (4.921)	44 (1.732)
	191901233	23 (0.906)	24,1 (0.949)	125 (4.921)	44 (1.732)
4	*191901064	6 (0.236)	31,6 (1.244)	160 (6.299)	57,5 (2.264)
	*191901084	8 (0.315)	31,6 (1.244)	160 (6.299)	57,5 (2.264)
	191901104	10 (0.394)	31,6 (1.244)	160 (6.299)	57,5 (2.264)
	*191901144	14 (0.551)	31,6 (1.244)	160 (6.299)	57,5 (2.264)
	*191901184	18 (0.709)	31,6 (1.244)	160 (6.299)	57,5 (2.264)
	*191901234	23 (0.906)	31,6 (1.244)	160 (6.299)	57,5 (2.264)
	191901304	30 (1.181)	31,6 (1.244)	160 (6.299)	57,5 (2.264)
5	*191901125	12 (0.472)	44,7 (1.760)	200 (7.874)	70,5 (2.776)
	*191901165	16 (0.630)	44,7 (1.760)	200 (7.874)	70,5 (2.776)
	191901205	20 (0.787)	44,7 (1.760)	200 (7.874)	70,5 (2.776)
	*191901265	26 (1.024)	44,7 (1.760)	200 (7.874)	70,5 (2.776)
	191901305	30 (1.181)	44,7 (1.760)	200 (7.874)	70,5 (2.776)

Tipo "N.S." (Normale-Scaricata)
Type "N.S." (Normal-Lowered)



		Dimensioni in mm (pollici) *Dimensions in mm (inch)*					
		Ø d	Ø D1	L1	L2	L3	H
1	*191902061	6 (0.236)	12,2 (0.480)	80 (3.150)	26,5 (1.043)	20 (0.787)	4 (0.157)
2	191902062	6 (0.236)	18 (0.709)	100 (3.937)	36 (1.417)	29 (1.142)	4 (0.157)
	*191902082	8 (0.315)	18 (0.709)	100 (3.937)	36 (1.417)	29 (1.142)	5 (0.197)
	191902122	12 (0.472)	18 (0.709)	100 (3.937)	36 (1.417)	29 (1.142)	7 (0.276)
3	191902063	6 (0.236)	24,1(0.949)	125 (4.921)	44 (1.732)	37 (1.457)	4 (0.157)
	*191902083	8 (0.315)	24,1(0.949)	125 (4.921)	44 (1.732)	37 (1.457)	5 (0.197)
	*191902103	10 (0.394)	24,1(0.949)	125 (4.921)	44 (1.732)	37 (1.457)	6 (0.236)
	191902143	14 (0.551)	24,1(0.949)	125 (4.921)	44 (1.732)	37 (1.457)	8 (0.315)
4	191902064	6 (0.236)	31,6 (1.244)	160 (6.299)	57,5 (2.264)	48 (1.890)	4 (0.157)
	*191902084	8 (0.315)	31,6 (1.244)	160 (6.299)	57,5 (2.264)	48 (1.890)	5 (0.197)
	191902124	12 (0.472)	31,6 (1.244)	160 (6.299)	57,5 (2.264)	48 (1.890)	7 (0.276)
	*191902164	16 (0.630)	31,6 (1.244)	160 (6.299)	57,5 (2.264)	48 (1.890)	9 (0.354)
	191902204	20 (0.787)	31,6 (1.244)	160 (6.299)	57,5 (2.264)	48 (1.890)	12 (0.472)
5	191902105	10 (0.394)	44,7 (1.760)	200 (7.874)	70,5 (2.776)	60 (2.362)	6 (0.236)
	*191902145	14 (0.551)	44,7 (1.760)	200 (7.874)	70,5 (2.776)	60 (2.362)	8 (0.315)
	191902185	18 (0.709)	44,7 (1.760)	200 (7.874)	70,5 (2.776)	60 (2.362)	10 (0.394)
	*191902235	23 (0.906)	44,7 (1.760)	200 (7.874)	70,5 (2.776)	60 (2.362)	12,5 (0.492)
	191902305	30 (1.181)	44,7 (1.760)	200 (7.874)	70,5 (2.776)	60 (2.362)	16 (0.630)

*** ATTENZIONE:**
Verificare disponibilità con il nostro ufficio commerciale.

***** ***WARNING:***
Availability of these items must be verified with our sales department.

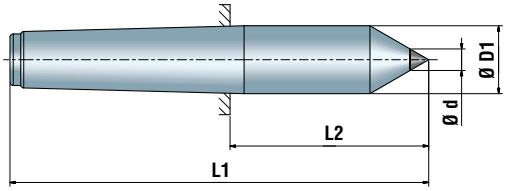
A richiesta possiamo realizzare punte fisse speciali, a vostro disegno, con qualsiasi tipo di cono e attacco speciale.
On request we can manufacture special dead centers as per your drawing with every kind of special taper and connection.

CONTROPUNTE FISSE PROLUNGATE CON CUSPIDE IN METALLO DURO A 60° - SERIE PF

EXTENDED DEAD CENTERS WITH A 60° POINT IN HARD METAL - PF SERIES

Tipo "P" (Prolungata)

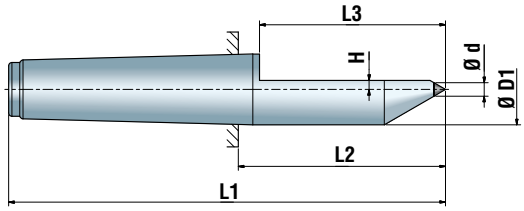
Type "P" (Extended)



		Dimensioni in mm (pollici) *Dimensions in mm (inch)*			
		Ø d	Ø D1	L1	L2
1	*191903061	6 (0.236)	12,2 (0.480)	100 (3.937)	46,5 (1.831)
	*191903081	8 (0.315)	12,2 (0.480)	100 (3.937)	46,5 (1.831)
	191903101	10 (0.394)	12,2 (0.480)	100 (3.937)	46,5 (1.831)
2	*191903062	6 (0.236)	18 (0.709)	120 (4.724)	56 (2.205)
	*191903082	8 (0.315)	18 (0.709)	120 (4.724)	56 (2.205)
	*191903102	10 (0.394)	18 (0.709)	120 (4.724)	56 (2.205)
	*191903142	14 (0.551)	18 (0.709)	120 (4.724)	56 (2.205)
	191903182	18 (0.709)	18 (0.709)	120 (4.724)	56 (2.205)
3	*191903063	6 (0.236)	24,1 (0.949)	155 (6.102)	74 (2.913)
	*191903083	8 (0.315)	24,1 (0.949)	155 (6.102)	74 (2.913)
	191903103	10 (0.394)	24,1 (0.949)	155 (6.102)	74 (2.913)
	*191903143	14 (0.551)	24,1 (0.949)	155 (6.102)	74 (2.913)
	*191903183	18 (0.709)	24,1 (0.949)	155 (6.102)	74 (2.913)
	191903233	23 (0.906)	24,1 (0.949)	155 (6.102)	74 (2.913)
4	*191903064	6 (0.236)	31,6 (1.244)	195 (7.677)	92,5 (3.642)
	*191903084	8 (0.315)	31,6 (1.244)	195 (7.677)	92,5 (3.642)
	191903104	10 (0.394)	31,6 (1.244)	195 (7.677)	92,5 (3.642)
	*191903144	14 (0.551)	31,6 (1.244)	195 (7.677)	92,5 (3.642)
	*191903184	18 (0.709)	31,6 (1.244)	195 (7.677)	92,5 (3.642)
	*191903234	23 (0.906)	31,6 (1.244)	195 (7.677)	92,5 (3.642)
	191903304	30 (1.181)	31,6 (1.244)	195 (7.677)	92,5 (3.642)
5	*191903125	12 (0.472)	44,7 (1.760)	240 (9.449)	110,5 (4.350)
	*191903165	16 (0.630)	44,7 (1.760)	240 (9.449)	110,5 (4.350)
	191903205	20 (0.787)	44,7 (1.760)	240 (9.449)	110,5 (4.350)
	*191903265	26 (1.024)	44,7 (1.760)	240 (9.449)	110,5 (4.350)
	191903305	30 (1.181)	44,7 (1.760)	240 (9.449)	110,5 (4.350)

Tipo "P.S." (Prolungata-Scaricata)

Type "P.S." (Extended-Lowered)



		Dimensioni in mm (pollici) *Dimensions in mm (inch)*					
		Ø d	Ø D1	L1	L2	L3	H
1	*191904061	6 (0.236)	12,2 (0.480)	100 (3.937)	46,5 (1.831)	40 (1.575)	4 (0.157)
2	191904062	6 (0.236)	18 (0.709)	120 (4.724)	56 (2.205)	49 (1.929)	4 (0.157)
	*191904082	8 (0.315)	18 (0.709)	120 (4.724)	56 (2.205)	49 (1.929)	5 (0.197)
	191904122	12 (0.472)	18 (0.709)	120 (4.724)	56 (2.205)	49 (1.929)	7 (0.276)
3	191904063	6 (0.236)	24,1(0.949)	155 (6.102)	74 (2.913)	67 (2.638)	4 (0.157)
	*191904083	8 (0.315)	24,1(0.949)	155 (6.102)	74 (2.913)	67 (2.638)	5 (0.197)
	*191904103	10 (0.394)	24,1(0.949)	155 (6.102)	74 (2.913)	67 (2.638)	6 (0.236)
	191904143	14 (0.551)	24,1(0.949)	155 (6.102)	74 (2.913)	67 (2.638)	8 (0.315)
4	191904064	6 (0.236)	31,6 (1.244)	195 (7.677)	92,5 (3.642)	83 (3.268)	4 (0.157)
	*191904084	8 (0.315)	31,6 (1.244)	195 (7.677)	92,5 (3.642)	83 (3.268)	5 (0.197)
	191904124	12 (0.472)	31,6 (1.244)	195 (7.677)	92,5 (3.642)	83 (3.268)	7 (0.276)
	*191904164	16 (0.630)	31,6 (1.244)	195 (7.677)	92,5 (3.642)	83 (3.268)	9 (0.354)
	191904204	20 (0.787)	31,6 (1.244)	195 (7.677)	92,5 (3.642)	83 (3.268)	12 (0.472)
5	191904105	10 (0.394)	44,7 (1.760)	240 (9.449)	110,5 (4.350)	100 (3.937)	6 (0.236)
	*191904145	14 (0.551)	44,7 (1.760)	240 (9.449)	110,5 (4.350)	100 (3.937)	8 (0.315)
	191904185	18 (0.709)	44,7 (1.760)	240 (9.449)	110,5 (4.350)	100 (3.937)	10 (0.394)
	*191904235	23 (0.906)	44,7 (1.760)	240 (9.449)	110,5 (4.350)	100 (3.937)	12,5 (0.492)
	191904305	30 (1.181)	44,7 (1.760)	240 (9.449)	110,5 (4.350)	100 (3.937)	16 (0.630)

*** ATTENZIONE:**
Verificare disponibilità con il nostro ufficio commerciale.

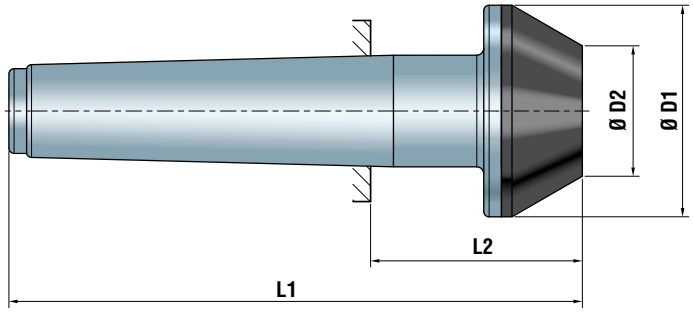
***** ***WARNING:***
Availability of these items must be verified with our sales department.

A richiesta possiamo realizzare punte fisse speciali, a vostro disegno, con qualsiasi tipo di cono e attacco speciale.
On request we can manufacture special dead centers as per your drawing with every kind of special taper and connection.

CONTROPUNTE FISSE CON ANELLO IN METALLO DURO - SERIE PF
DEAD CENTERS WITH CARBIDE RING - PF SERIES

PF

SERIE *SERIES*

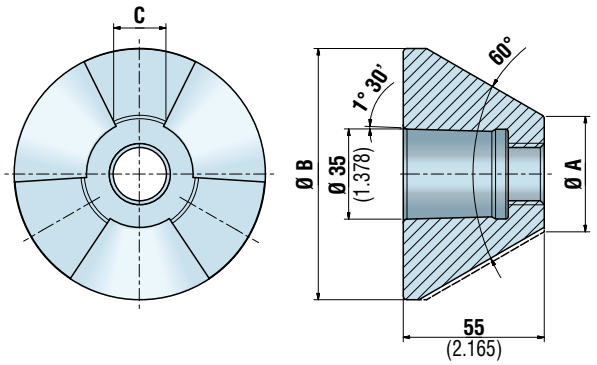


		Dimensioni in mm (pollici) *Dimensions in mm (inch)*			
		Ø D1	Ø D2	L1	L2
2	**202030072**	30 (1.181)	7 (0.276)	112 (4.409)	48 (1.890)
	202035122	35 (1.378)	12 (0.472)	112 (4.409)	48 (1.890)
	202040172	40 (1.575)	17 (0.669)	112 (4.409)	48 (1.890)
	202045222	45 (1.772)	22 (0.866)	112 (4.409)	48 (1.890)
	202050272	50 (1.969)	27 (1.063)	112 (4.409)	48 (1.890)
3	**202030073**	30 (1.181)	7 (0.276)	129 (5.079)	48 (1.890)
	202035123	35 (1.378)	12 (0.472)	129 (5.079)	48 (1.890)
	202040173	40 (1.575)	17 (0.669)	129 (5.079)	48 (1.890)
	202045223	45 (1.772)	22 (0.866)	129 (5.079)	48 (1.890)
	202050273	50 (1.969)	27 (1.063)	129 (5.079)	48 (1.890)
	202055323	55 (2.165)	32 (1.260)	129 (5.079)	48 (1.890)
	202060373	60 (2.362)	37 (1.457)	129 (5.079)	48 (1.890)
	202065423	65 (2.559)	42 (1.654)	129 (5.079)	48 (1.890)
	202070473	70 (2.756)	47 (1.850)	129 (5.079)	48 (1.890)
	202075523	75 (2.953)	52 (2.047)	129 (5.079)	48 (1.890)
	202080573	80 (3.150)	57 (2.244)	129 (5.079)	48 (1.890)
	202085623	85 (3.346)	62 (2.441)	129 (5.079)	48 (1.890)
	202090673	90 (3.543)	67 (2.638)	129 (5.079)	48 (1.890)
	202095723	95 (3.740)	72 (2.835)	129 (5.079)	48 (1.890)
	202000773	100 (3.937)	77 (3.031)	129 (5.079)	48 (1.890)
4	**202030074**	30 (1.181)	7 (0.276)	162 (6.378)	60 (2.362)
	202035124	35 (1.378)	12 (0.472)	162 (6.378)	60 (2.362)
	202040174	40 (1.575)	17 (0.669)	162 (6.378)	60 (2.362)
	202045224	45 (1.772)	22 (0.866)	162 (6.378)	60 (2.362)
	202050274	50 (1.969)	27 (1.063)	162 (6.378)	60 (2.362)

		Dimensioni in mm (pollici) *Dimensions in mm (inch)*			
		Ø D1	Ø D2	L1	L2
4	**202055324**	55 (2.165)	32 (1.260)	162 (6.378)	60 (2.362)
	202060374	60 (2.362)	37 (1.457)	162 (6.378)	60 (2.362)
	202065424	65 (2.559)	42 (1.654)	162 (6.378)	60 (2.362)
	202070474	70 (2.756)	47 (1.850)	162 (6.378)	60 (2.362)
	202075524	75 (2.953)	52 (2.047)	162 (6.378)	60 (2.362)
	202080574	80 (3.150)	57 (2.244)	162 (6.378)	60 (2.362)
	202085624	85 (3.346)	62 (2.441)	162 (6.378)	60 (2.362)
	202090674	90 (3.543)	67 (2.638)	162 (6.378)	60 (2.362)
	202095724	95 (3.740)	72 (2.835)	162 (6.378)	60 (2.362)
	202000774	100 (3.937)	77 (3.031)	162 (6.378)	60 (2.362)
5	**202030075**	30 (1.181)	7 (0.276)	200 (7.874)	70,5 (2.776)
	202035125	35 (1.378)	12 (0.472)	200 (7.874)	70,5 (2.776)
	202040175	40 (1.575)	17 (0.669)	200 (7.874)	70,5 (2.776)
	202045225	45 (1.772)	22 (0.866)	200 (7.874)	70,5 (2.776)
	202050275	50 (1.969)	27 (1.063)	200 (7.874)	70,5 (2.776)
	202055325	55 (2.165)	32 (1.260)	200 (7.874)	70,5 (2.776)
	202060375	60 (2.362)	37 (1.457)	200 (7.874)	70,5 (2.776)
	202065425	65 (2.559)	42 (1.654)	200 (7.874)	70,5 (2.776)
	202070475	70 (2.756)	47 (1.850)	200 (7.874)	70,5 (2.776)
	202075525	75 (2.953)	52 (2.047)	200 (7.874)	70,5 (2.776)
	202080575	80 (3.150)	57 (2.244)	200 (7.874)	70,5 (2.776)
	202085625	85 (3.346)	62 (2.441)	200 (7.874)	70,5 (2.776)
	202090675	90 (3.543)	67 (2.638)	200 (7.874)	70,5 (2.776)
	202095725	95 (3.740)	72 (2.835)	200 (7.874)	70,5 (2.776)
	202000775	100 (3.937)	77 (3.031)	200 (7.874)	70,5 (2.776)

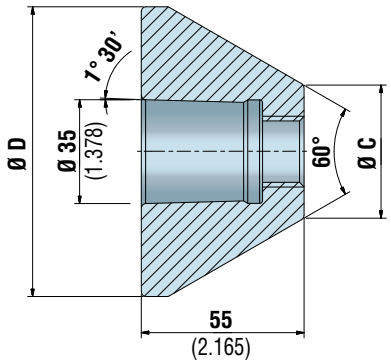
A richiesta possiamo realizzare punte fisse speciali, a vostro disegno, con qualsiasi tipo di cono e attacco speciale.
On request we can manufacture special dead centers as per your drawing with every kind of special taper and connection.

ANELLI CONICI CON 3 PUNTI DI CONTATTO PER CONTROPUNTE E PUNTE FISSE
HEADS WITH THREE CONTACT SECTORS FOR LIVE CENTERS AND DEAD CENTERS

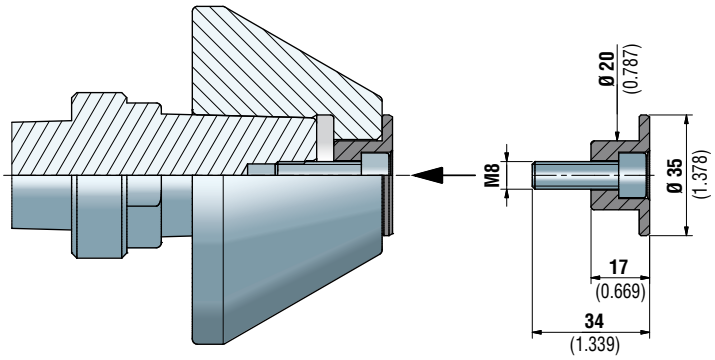


	Dimensioni in mm (pollici) *Dimensions in mm (inch)*		
	Ø A	Ø B	C
040300265	45 (1.772)	98 (3.858)	20 (0.787)
040300266	95 (3.740)	148 (5.827)	30 (1.181)
040300267	145 (5.709)	198 (7.795)	40 (1.575)
040300268	195 (7.677)	248 (9.764)	50 (1.969)
040300269	245 (9.646)	298 (11.732)	60 (2.362)

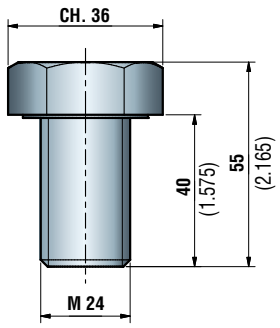
ANELLI CONICI PER CONTROPUNTE E PUNTE FISSE
HEADS FOR LIVE CENTERS AND DEAD CENTERS



	Dimensioni in mm (pollici) *Dimensions in mm (inch)*	
	Ø C	Ø D
Per contropunte con cono CM4-CM5-CM6-CM7-M80-M100 *For live centers with MT4-MT5-MT6-MT7-M80-M100 tapers*		
040400265	45 (1.772)	98 (3.858)
040400266	95 (3.740)	148 (5.827)
040400267	145 (5.709)	198 (7.795)
040400268	195 (7.677)	248 (9.764)
040400269	245 (9.646)	298 (11.732)
040400270	295 (11.614)	348 (13.701)
040400271	345 (13.583)	398 (15.669)
040400272	395 (15.551)	448 (17.638)
040400273	445 (17.520)	498 (19.606)



012920282	Boccola di sostegno per anelli conici *Support bushing for conical heads*



045000910	Vite TE M24x40 per estrazione anelli conici *M24x40 HH screw for heads extraction*

AC

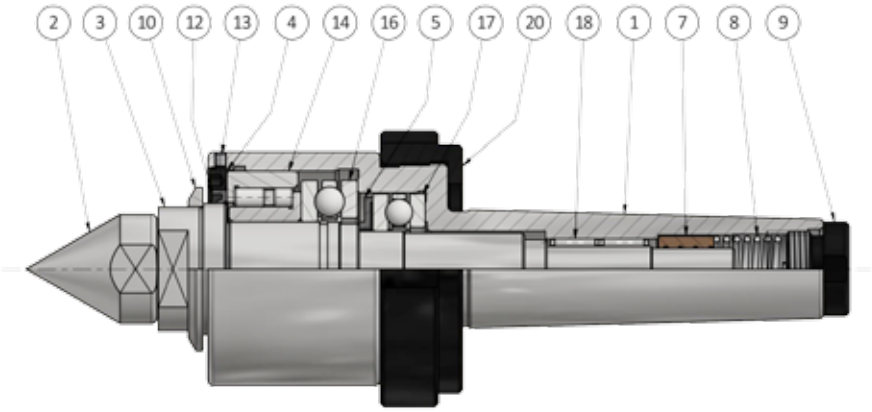
SERIE *SERIES*

DESCRIZIONE FUNZIONALE CONTROPUNTE ROTANTI A CARICO ASSIALE DIFFERENZIATO - SERIE 80 / 85
FUNCTIONAL DESCRIPTION OF LIVE CENTERS WITH AXIAL LOAD DISTRIBUTION - 80 / 85 SERIES

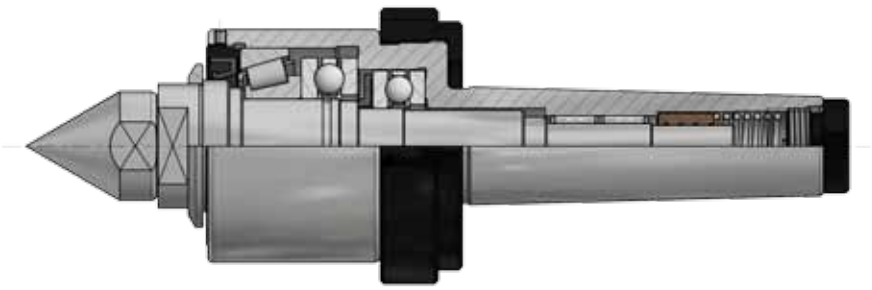
La contropunta FRB a carico assiale differenziato è provvista di due cuscinetti reggispinta **16** e **17** tra i quali è inserita una molla a tazza speciale **5** per differenziare il carico assiale sui due reggispinta. Facendo pressione sulla punta **2**, questa comincia a rientrare fino ad un massimo di 0,25 mm (corrispondenti per la contropunta FRB cono morse 4 a 500 kg di carico assiale) che vengono caricati sul reggispinta posteriore **17**.
Pertanto l'albero **3**, essendo già rientrato di 0,25 mm, è andato in battuta sull'anello interno del cuscinetto a rulli conici **14**, trasmettendo così l'ulteriore carico assiale sul reggispinta anteriore **16**. Con questo sistema brevettato, la contropunta consente di lavorare con carico assiale molto elevato e, lavorando con trascinatore, è possibile usare un maggiore avanzamento e profondità di passata.
Vi sono inoltre due gabbie a rullini **18** per una forte tenuta radiale, una boccola anti-vibrante portante **7** mantenuta rigida mediante una molla **8** che ne elimina, in questo modo, le vibrazioni. Agendo con una chiave a compasso sulla ghiera **4** posta anteriormente alla contropunta serie 80, si elimina il gioco che si crea con l'usura dei cuscinetti.
Un anello parascorie di protezione **10** garantisce un perfetto isolamento dell'anello di tenuta **12** dalle scorie stesse.
La ghiera di spallamento ed estrazione **20** nella parte posteriore serve ad eliminare flessioni e vibrazioni.

*The FRB live center with axial load distribution has two thurst bearings **16** and **17** between which a specially designed belleville spring washer **5** is inserted to distribute the load between the two bearings.*
*When a thrust acts on the center **2**, it will retract up to 0.0098 inches which corresponds to 1,102.3 lb of axial load for the FRB live center morse taper 4 that is absorbed by the back bearing **17**. As the center shaft **3** has now moved inside by 0.0098 inches, it comes to rest on the inner ring of the cylindrical roller bearing **14**, thereby transmitting the remaining force to the front bearing **16**.*
This patented center allows the center to apply a very high rate of live center thrust to the process. When turning shafts held by face driver, machining can be carried out with an accordingly high feed rate and cutting depth.
*The two roller cages **18** support heavy radial loads and a vibrations damping bush **7** kept stiff by a spring **8** which prevents vibration.*
*The nut **4** at the front of the live center can be adjusted to eliminate the play caused by worn bearings by means of a caliper wrench.*
*A chip guard ring **10** guarantees complete insulation of the sealing ring **12** from chips.*
*The back extraction nut **20** prevents deflection and vibration.*

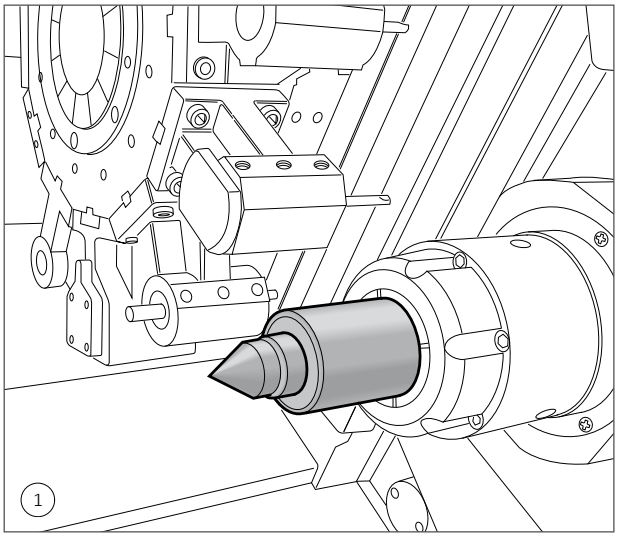
85

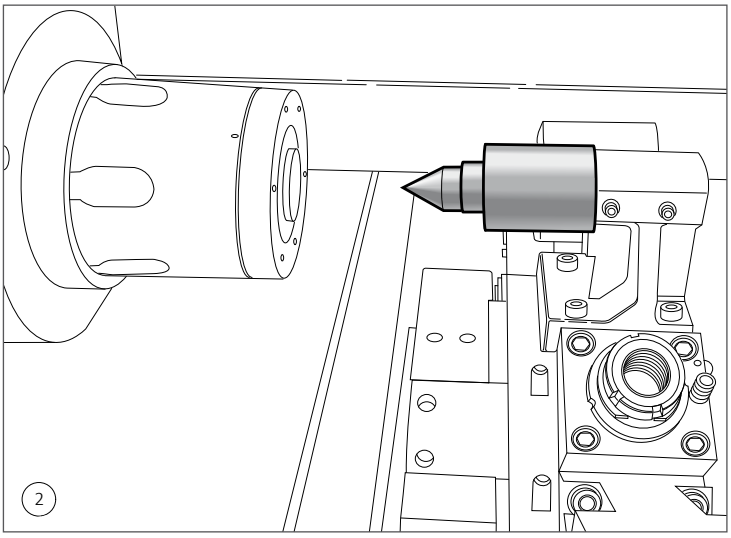


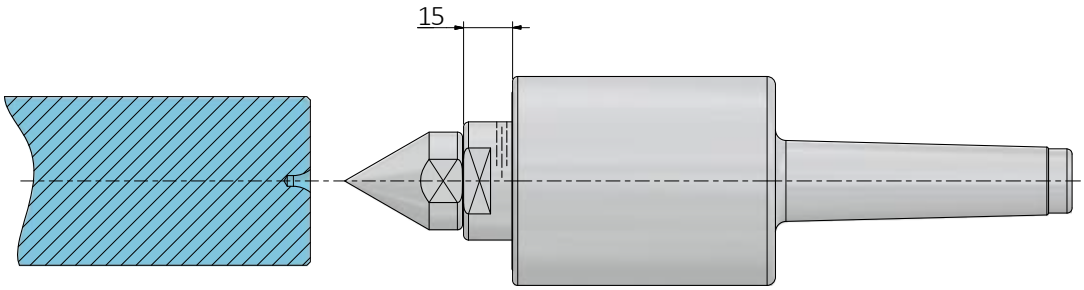
80

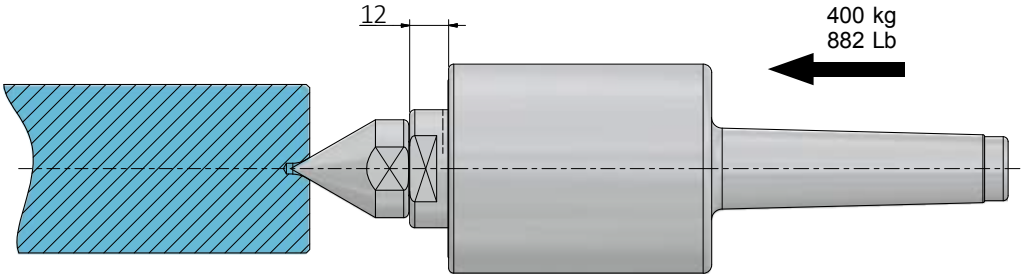


APPLICAZIONI PER CONTROPUNTA MOLLEGGIATA
SPRUNG LIVE CENTER APPLICATIONS





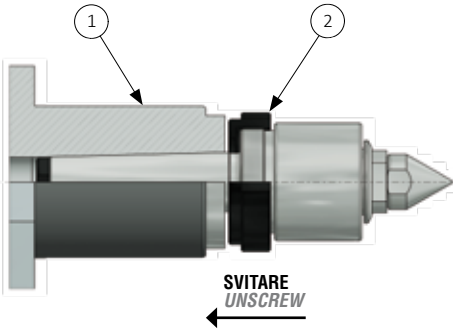




La contropunta molleggiata è nota per poter essere applicata su **contromandrino** (1) e su **torretta porta utensili** (2) in quanto sono questi assi elettrici utilizzati per compiere solo dei posizionamenti e non un continuo controllo della pressione sul pezzo, la contropunta **serie 81** mantiene il pezzo da lavorare continuamente in spinta e lo sviluppo di tale forza sull'albero da tornire avviene tramite lo schiacciamento delle molle a tazza all'interno della contropunta; dopo aver messo a contatto il foro da centro con la cuspide della contropunta, si fa avanzare la torretta o il contromandrino, tale movimento provoca lo schiacciamento delle molle interne e il conseguente aumento della forza di spinta della contropunta sull'albero in lavorazione, tale aumento della forza è correlato con la variazione della lunghezza Y come da tabella corrispondente.

*The spring-loaded live center is known to be applied on the **counter spindle** (1) and on the **tool holder turret** (2) as these electric axes are used to perform only positioning and not a continuous control of the pressure on the piece, the **series 81** live center keeps the workpiece continuously in thrust and the development of this force on the shaft to be turned takes place by pressing the belleville springs inside the live center; after having placed the center hole in contact with the center of the live center, the turret or the counter spindle is advanced, this movement causes the internal springs to be crushed and the consequent increase in the thrust force of the live center on the shaft being processed, this increase of the force is correlated with the variation of the length Y as per the corresponding table.*

FUNZIONE DELLA GHIERA DI ESTRAZIONE
EXTRACTION NUT FUNCTION



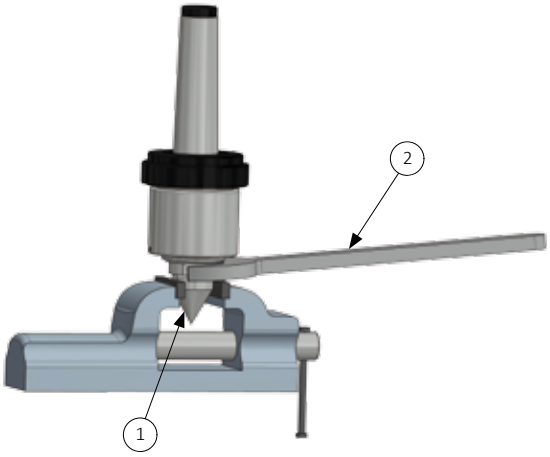
La ghiera avvitata sul fusto serve per favorire l'estrazione della contropunta dal cannotto. Utilizzare la ghiera nel seguente modo:

- Svitare la ghiera (2) con l'apposita chiave fino a che la contropunta non viene estratta dal cannotto (1).

The extraction nut fitted on the basic body of the live center serves to extract the live center from the tailstock. Use the extraction nut in this way:

- *Unscrew the extraction nut (2) with the specific key until the live center comes out from the tailstock (1).*

MODALITÀ DI ESTRAZIONE DELLA CUSPIDE INTERCAMBIABILE
REMOVING THE INTERCHANGEABLE CENTER



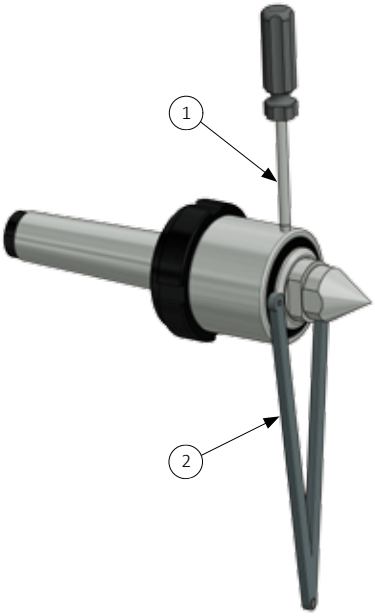
Per evitare il danneggiamento delle sedi cuscinetto dell'albero, estrarre la cuspide nel seguente modo:

- Bloccare in morsa la cuspide (1).
- Ruotare l'albero agendo con la chiave (2).

To avoid damage to the bearings seats of the shaft, extract the interchangeable center in the following way:

- *Lock the interchangeable center (1) in the vise.*
- *Act with the spanner (2) by rotating the shaft.*

REGISTRAZIONE DELLE CONTROPUNTE SERIE 80
ADJUSTING THE 80 SERIES LIVE CENTERS



Per garantire il funzionamento ottimale ed esente da vibrazioni, occorrerà registrare la contropunta di tanto in tanto stringendo la ghiera fino a consentire all'anello del cuscinetto a rulli conici di essere sempre aderente ai rulli.

Per registrare la contropunta utilizzare il seguente metodo:

a) Allentare la vite ferma-ghiera con un cacciavite (1).
b) Allentare o stringere la ghiera di registrazione della contropunta tramite la chiave a compasso (2).
NOTA: Le contropunte serie 85 non necessitano di regolazione.

Le contropunte a carico differenziato diventano meno scorrevoli quando non sono in appoggio sul pezzo da tornire: questo è dovuto alla contropressione della molla che serve per differenziare il carico assiale sui reggispinta e non è un difetto costruttivo.

To ensure setting accuracy and avoid vibrations the live centers must occasionally be adjusted by tightening the nut until the cylindrical roller bearing ring is positioned firmly on the tapers.

To adjust the live center, use the following method:

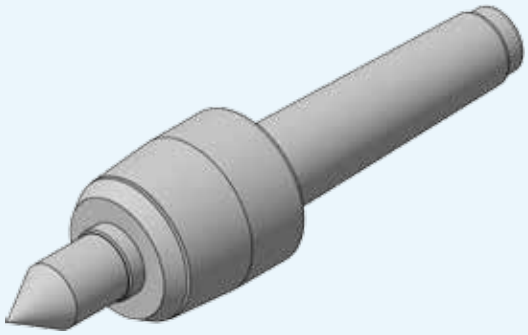
a) Loosen the locking nut screw with a screwdriver (1).
b) Loosen or tighten the live center adjusting nut with a pin spanner wrench (2)
NOTE: The 85 series live centers need no adjustiment.

As this is a live center with axial load distribution, when is not against the workpiece (therefore it's not subjected to axial load) it does not travel smoothly; this is due to the counter-pressure of the spring which distributes the axial load between the thrust bearings.

CONTROPUNTE SPECIALI
SPECIAL PRECISION LIVE CENTERS

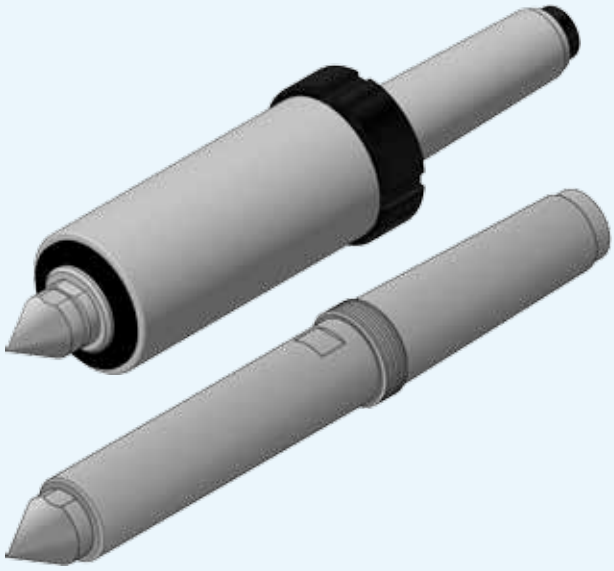
CONTROPUNTA PER RULLATURA; HA UNA ROTAZIONE MOLTO FLUIDA GRAZIE AI SUOI 3 CUSCINETTI STUDIATI APPOSITAMENTE PER QUESTA LAVORAZIONE.

LIVE CENTER FOR ROLLING; IT HAS A VERY SMOOTH ROTATION THANKS TO ITS 3 BEARINGS DESIGNED SPECIFICALLY FOR THIS PROCESS.



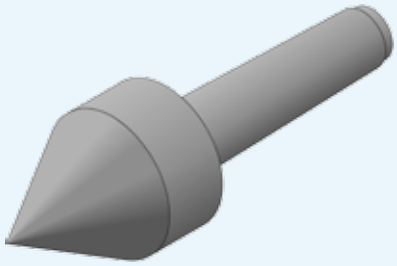
CONTROPUNTA ROTANTE SERIE 2000 CM5 SPECIALE E PUNTA FISSA CM5 PROLUNGATA SPECIALE; UTILI SU MACCHINE UTENSILI CON GRUPPO CONTROPUNTA ELETTRICO E LUNETTA.

SPECIAL LIVE CENTER 2000 SERIES MT5 AND SPECIAL EXTENDED DEAD CENTER MT5; USEFUL ON MACHINE TOOLS WITH ELECTRIC TAILSTOCK AND STEADY REST.



CONTROPUNTA ROTANTE PER STRUMENTI DI MISURA; HA UNA ROTAZIONE MOLTO SCORREVOLE E UNA CONCENTRICITÀ ENTRO 2 MICRON.

LIVE CENTER FOR MEASURING INSTRUMENTS; IT HAS A VERY SMOOTH ROTATION AND A CONCENTRICITY WITHIN 2 MICRONS.



FRB crea CONTROPUNTE SPECIALI progettate su specifiche del cliente!
FRB creates SPECIAL LIVE CENTERS specifically designed for the customer!

NOTE
NOTES

LEGENDA ICONE TRASCINATORI / *FACE DRIVERS ICONS KEY*

DESTINAZIONE D'USO
INTENDED USE

TORNITURA
TURNING

RETTIFICA
GRINDING

DENTATURA
GEAR CUTTING

CARATTERISTICHE TECNICHE
TECHNICAL FEATURES

Ad azionamento a molle
Operated by springs

Ad azionamento idraulico
Operated by hydraulic cylinder

Versione flangiata
Flanged version

Versione cono morse
Morse taper version

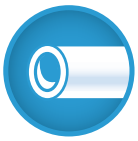
Punta centrale
Center point

Punta a capruggine
Center points with slots

Punta integrale
Integral center point

Ghiera d'estrazione
Extraction nut

A denti fissi
With fixed teeth



Lavorazione tubi
Pipes machining

PITTOGRAMMI
PICTOGRAMS

Posizione da tenere per definire il senso di rotazione
Position to keep to define the direction of rotation

Rotazione anti-oraria
Counter-clockwise rotation (CCW)

Rotazione oraria
Clockwise rotation (CW)

Codice
Code

Cono morse
Morse taper

Concentricità
Concentricity

Rotondità
Roundness

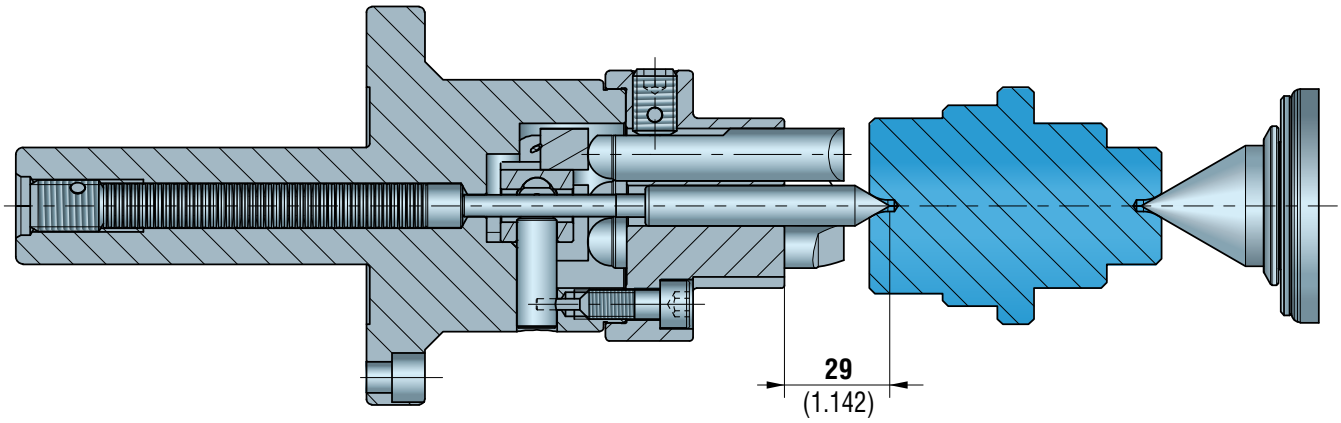
TRASCINATORE AD AZIONAMENTO A MOLLE
FACE DRIVER OPERATED BY SPRINGS

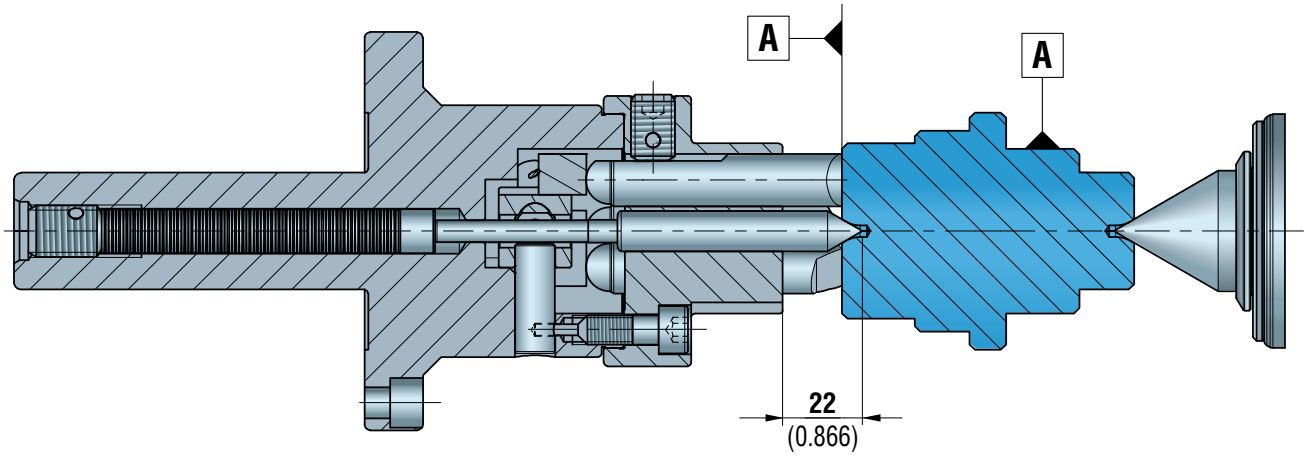
L'intera superficie esterna del pezzo può essere lavorata e finita in un'unica fase.
I trascinatori FRB ad azionamento molleggiato sono adatti alle lavorazioni di tornitura del tenero e dentatura.
Il bloccaggio del pezzo avviene mediante la spinta che la contropunta esercita sul pezzo, la quale permette l'arretramento della punta centrale fino a che gli artigli non entrano in contatto con la faccia del pezzo.

I trascinatori molleggiati FRB garantiscono:
- Riferimenti degli scostamenti su facce e diametri.
- Scostamenti massimi di 0,05 mm.

The entire outer surface of the workpiece can be machined and finished in one step.
The FRB face driver operated by springs are suitable for soft turning and hobbing operations.
The clamping of the workpiece takes place by means of the thrust of the tailstock exercises on the workpiece, which allows the backward movement of the center point until the driving pins make contact with the face of the workpiece.

The FRB face driver operated by springs guarantee:
- Reference of the run-out deviations on faces and diameter.
- Maximum run-out deviation of 0,05 mm.





SPINTA ASSIALE DELLA CONTROPUNTA
AXIAL THRUST OF THE TAILSTOCK

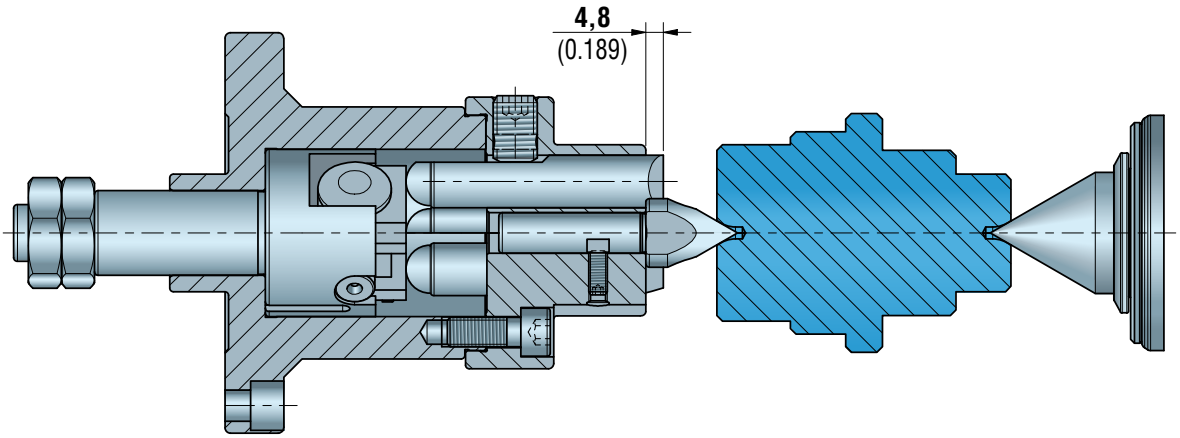
TRASCINATORE AD AZIONAMENTO IDRAULICO
FACE DRIVER OPERATED BY HYDRAULIC CYLINDER

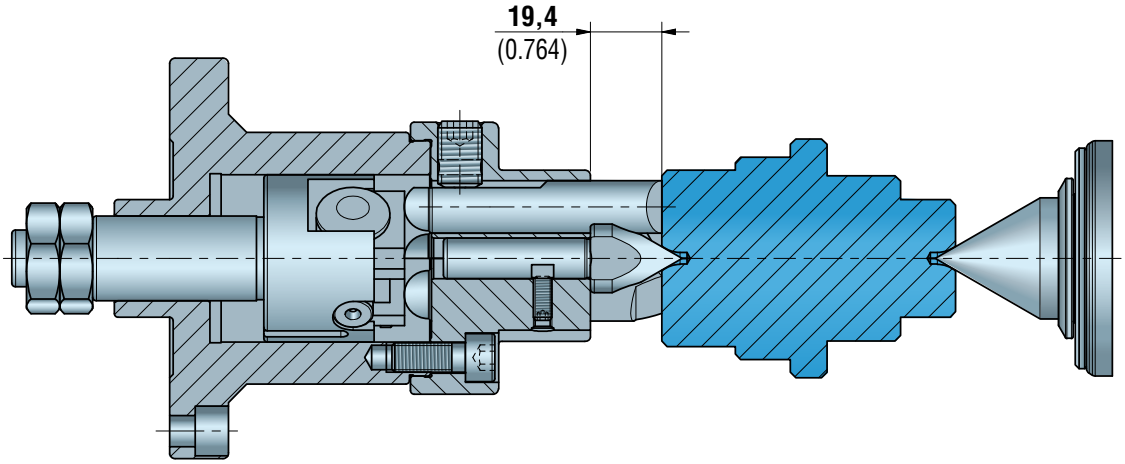
L'intera superficie esterna del pezzo può essere lavorata e finita in un'unica fase.
I trascinatori FRB a punta fissa ed azionamento idraulico sono adatti alle lavorazioni di tornitura del tenero, tornitura del temprato e rettifica. Il bloccaggio del pezzo avviene mediante una spinta assiale sul lato contropunta ed una spinta assiale di un cilindro, posto sul lato della testa della macchina, che spinge gli artigli a contatto con il pezzo.

I trascinatori a punta fissa FRB garantiscono:
- Riferimenti degli scostamenti sui centri o sull'asse del pezzo.
- Scostamenti massimi di 0,02 mm (in tornitura) e 0,0025 mm (in rettifica).

The entire outer surface of the workpiece can be machined and finished in one step.
The FRB face driver with fixed center point and driving pins operated by hydraulic cylinder are suitable for soft turning, hard turning and grinding. The workpiece is locked by an axial thrust on the tailstock side and an axial thrust of a cylinder, placed on the head side of the machine, which pushes the driving pins in contact with the workpiece.

The FRB face driver with fixed center point guarantee:
- *Reference of the run-out deviations on the centers or on the axis of the workipiece.*
- *Maximum run-out deviation of 0,02 mm (for turning) and 0,0025 mm (for grinding).*





SPINTA ASSIALE DEL CILINDRO
AXIAL THRUST OF THE CYLINDER

SPINTA ASSIALE DELLA CONTROPUNTA
AXIAL THRUST OF THE TAILSTOCK

SPINTA ASSIALE DA APPLICARE AL SISTEMA TRASCINATORE FRONTALE E CONTROPUNTA
AXIAL THRUST TO BE APPLIED TO THE FACE DRIVER AND TAILSTOCK SYSTEM

La spinta assiale consigliata o disponibile è da applicare alla macchina utensile con due metodologie differenti:

- Per trascinatori frontali FRB a punta molleggiata la spinta assiale è interamente applicata alla contropunta;
- Per trascinatori frontali FRB a punta fissa la spinta assiale è da applicare anche al sistema di azionamento degli artigli; la contropunta invece dovrà assumere valori di spinta assiale maggiorati di circa 15÷20% rispetto alla spinta applicata sugli artigli del trascinatore.

Si raccomanda sia nel primo caso che nel secondo di effettuare la prima passata di lavoro sempre a favore del trascinatore, cioè da contropunta verso trascinatore, per garantire una perfetta penetrazione degli artigli in presa.

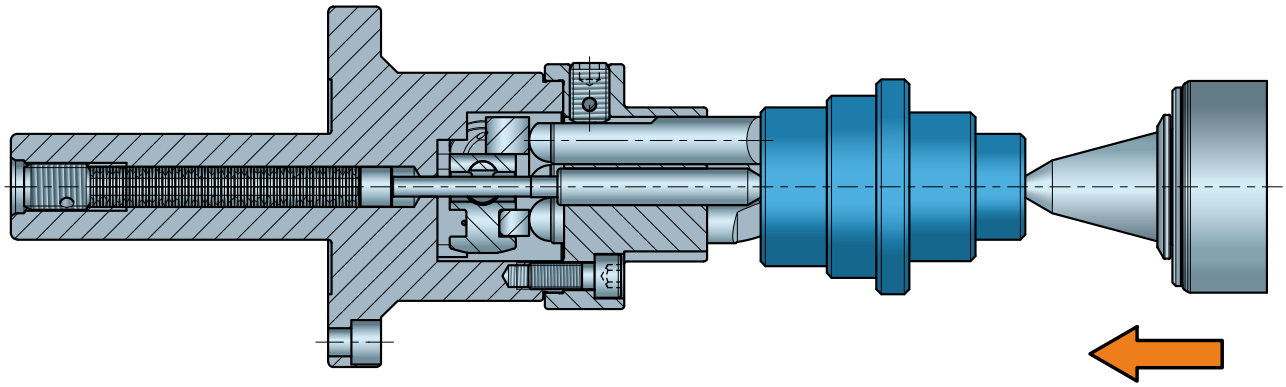
Nel primo caso (per trascinatori a punta molleggiata), comunque, quando si lavorerà da trascinatore verso contropunta, è necessario ridurre i parametri di lavoro di circa un 20% (avanzamento e/o profondità di passata).

The recommended or available axial thrust is to be applied to the machine tool with two different methods:

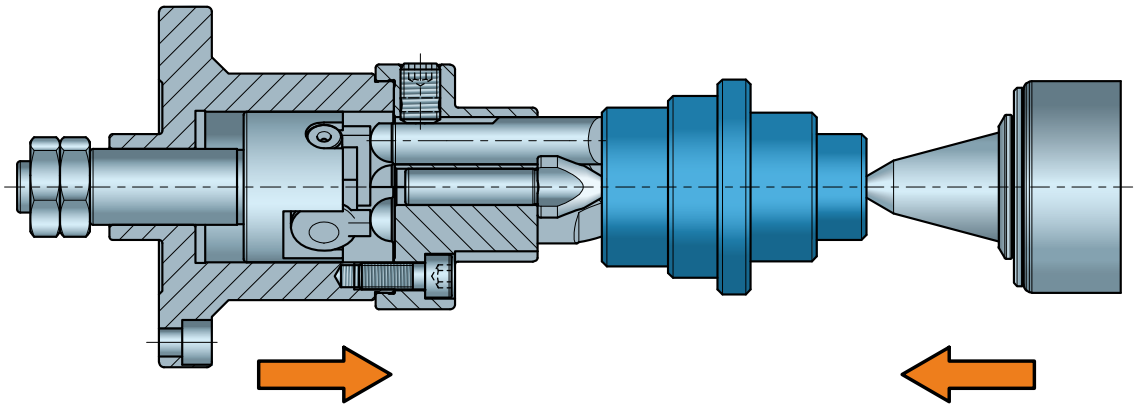
- *For FRB face drivers with center point operated by springs the axial thrust is entirely applied to the tailstock;*
- *For FRB face drivers with fixed center point the axial thrust must also be applied to the driving pins actuation system; the tailstock instead must assume axial thrust values increased by about 15 ÷ 20% respect to the thrust applied on the driving pins of the face driver.*

It is recommended both in the first case and in the second to make the first working cut always in favor of the face driver, that is from tailstock towards the face driver, to ensure perfect penetration of the driving pins in the workpiece.

In the first case (for spring loaded face drivers), anyway, when you work from the face driver to the tailstock, it is necessary to reduce the working parameters approximately a 20% (feed and / or depth of cut).



Spinta assiale: 8000 N (esempio)
Axial thrust: 8000 N (example)



Spinta assiale: 6400 N (esempio)
Axial thrust: 6400 N (example)

Spinta assiale: 8000 N (esempio)
Axial thrust: 8000 N (example)

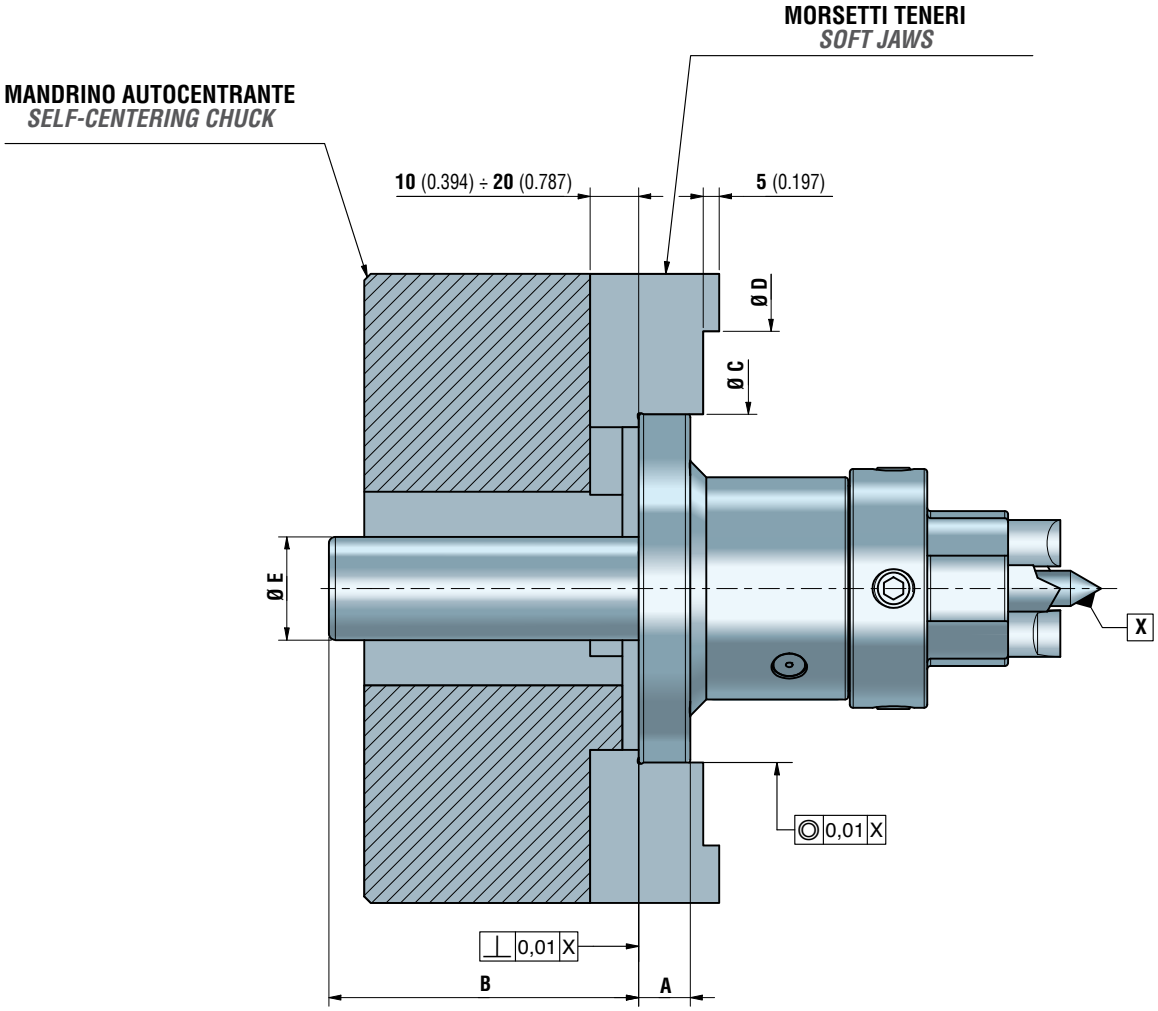
MODALITÀ DI BLOCCAGGIO DEI TRASCINATORI A FLANGIA INTEGRALE SU AUTOCENTRANTE
LOCKING METHOD OF THE FACE DRIVERS WITH INTEGRAL FLANGE ON SELF-CENTERING CHUCK

Per effettuare il bloccaggio in maniera corretta del trascinatore frontale su autocentrante è necessario fare la tornitura dei morsetti teneri in modo da recuperare il gioco assiale e radiale dell'autocentrante.

- Serrare fra i tre morsetti una flangia tonda del diametro opportuno e ricavare il diametro ØD;
- Poi dopo aver serrato l'apposito anello nel diametro ØD, ricavare il diametro ØC.

To correctly lock the face driver on the chuck, it is necessary to turn the soft jaws to take up the axial and radial slack of the chuck.

- *Tighten a round flange of the appropriate diameter between the three jaws and obtain the diameter ØD;*
- *Then after having tightened the special ring in the diameter ØD, obtain the diameter ØC.*

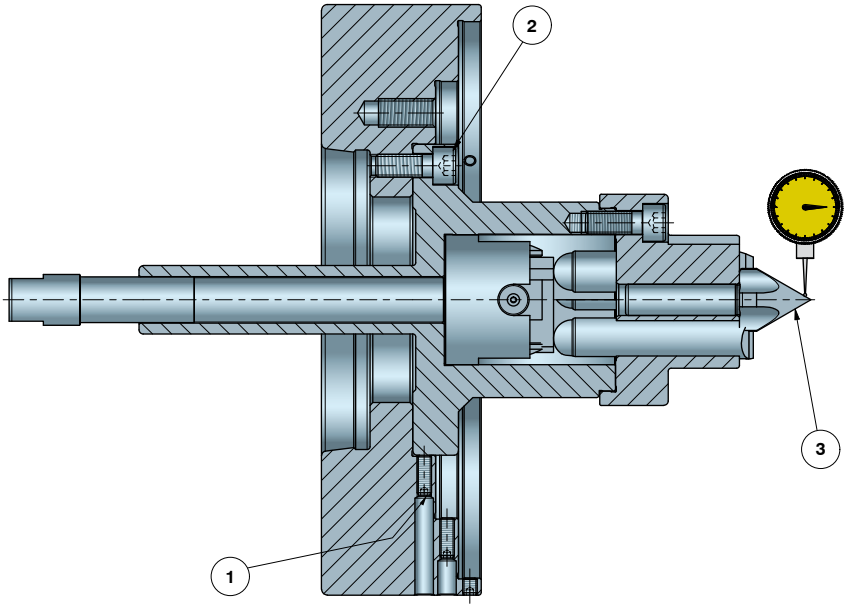


Trascinatore *Face driver*	A	B	Ø C	Ø D	Ø E
- 6/30 - 12/50 - - 15/55 - 20/60 -	16 (0.630)	56 (2.205)	109 (4.291)	160 (6.299)	32 (1.260)
20/70	16 (0.630)	62 (2.441)	109 (4.291)	160 (6.299)	32 (1.260)
45/120	22 (0.866)	108 (4.252)	153 (6.024)	200 (7.874)	32 (1.260)

ISTRUZIONI PER IL CENTRAGGIO DEL TRASCINATORE SU FLANGIA CON GRANI DI CENTRAGGIO
INSTRUCTIONS FOR CENTERING THE FACE DRIVER ON THE FLANGE WITH GRUB SCREW CENTERING

1. Dopo aver montato la flangia nella macchina, montare il trascinatore nella flangia serrando leggermente le viti (pos. 2);
2. Posizionare il comparatore sulla punta centrale (pos. 3) per eseguire il centraggio;
3. Eseguire il centraggio per mezzo dei grani radiali (pos.1) posti nella flangia;
4. Dopo aver eseguito il centraggio del trascinatore, serrare definitivamente le viti (pos. 2);
5. I grani radiali (pos. 1) vanno tenuti serrati sul trascinatore.

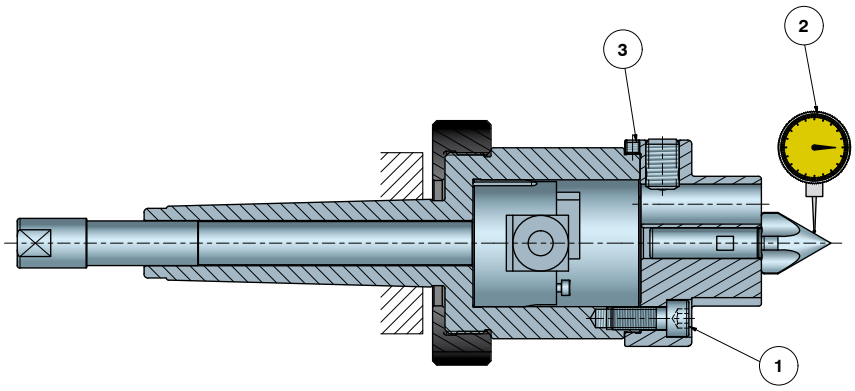
1. *After mounting the flange on the machine, fit the face driver into the flange and tighten the screws lightly (pos.2);*
2. *Position the gauge on the center point (pos. 3) to make the centering;*
3. *Make the centering by means of the radial grub screws (pos. 1) placed in the flange;*
4. *After centering of the face driver, fully tighten the screws (pos. 2);*
5. *The radial grub screws (pos. 1) must be kept tightened on the face driver.*



ISTRUZIONI PER IL CENTRAGGIO DELLA TESTINA CON GRANI DI CENTRAGGIO
INSTRUCTIONS FOR CENTERING THE FACE PLATE WITH GRUB SCREW CENTERING

1. Allentare leggermente le viti di fissaggio della testina (pos.1)
2. Posizionare il comparatore sulla punta centrale (pos. 2) per eseguire il centraggio;
3. Eseguire il centraggio per mezzo dei grani radiali (pos. 3) posti nella testina;
4. Dopo aver eseguito il centraggio della testina, serrare definitivamente le viti (pos. 1);
5. I grani radiali (pos. 3) vanno tenuti serrati sul trascinatore.

1. *Unloose lightly the screws (pos. 1)*
2. *Position the gauge on the center point (pos. 2) to make the centering;*
3. *Make the centering by means of the radial grub screws (pos. 3) placed in the face plate;*
4. *After centering of the face plate, fully tighten the screws (pos. 1);*
5. *The radial grub screws (pos. 3) must be kept tightened on the face driver*



RAPPORTO DI SERRAGGIO (RS)
CLAMPING RATIO

Il rapporto di serraggio "RS" è la relazione definita tra il diametro massimo di lavoro da eseguire e il diametro massimo di presa consentito dagli artigli del trascinatore FRB.
ØA => Diametro di presa degli artigli
ØB => Diametro massimo di lavoro del pezzo

$$RS = \frac{ØB}{ØA}$$

Esempio:
ØA = Ø28 mm (1.102 inch)
ØB = Ø28 mm (1.102 inch) => RS=1
Ø42 mm (1.654 inch) => RS=1,5
Ø56 mm (2.205 inch) => RS=2
Ø70 mm (2.756 inch) => RS=2,5

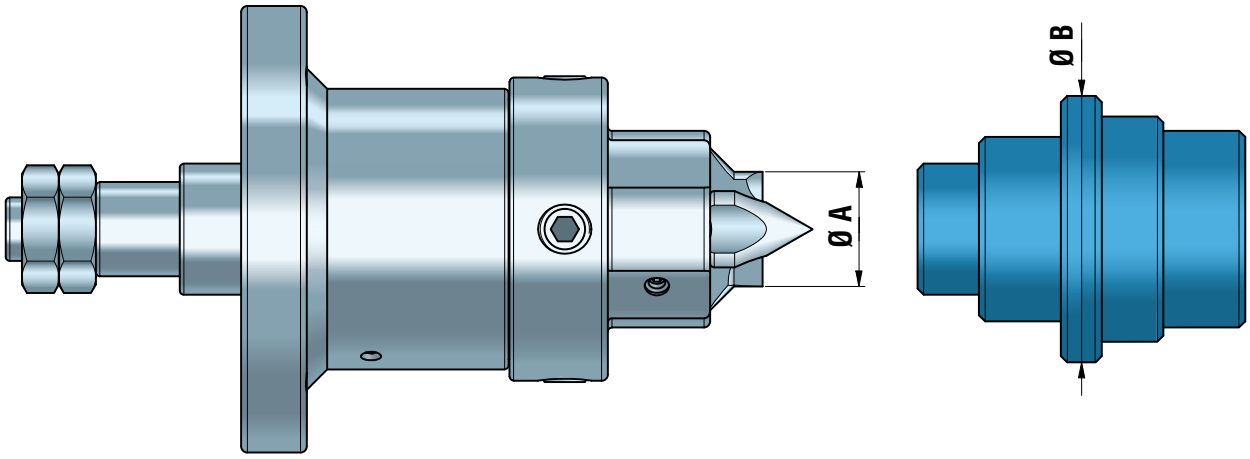
La scelta appropriata per il trascinatore deve ricadere, preferibilmente e compatibilmente alle caratteristiche del pezzo da lavorare, nel campo di rapporto di serraggio non superiore a **2 per la tornitura** e **3 per la rettifica**. Valori di serraggio superiori vanno valutati molto attentamente con l'ausilio ed il supporto di Tecnologie FRB.

The clamping ratio "RS" is the relationship defined between the maximum working diameter to be machined and the maximum clamping diameter allowed by the driving pins of the FRB face driver.
ØA => Clamping diameter of the driving pins
ØB => Maximum working diameter of the workpiece

$$RS = \frac{ØB}{ØA}$$

Example:
ØA = Ø28 mm (1.102 inch)
ØB = Ø28 mm (1.102 inch) => RS=1
Ø42 mm (1.654 inch) => RS=1,5
Ø56 mm (2.205 inch) => RS=2
Ø70 mm (2.756 inch) => RS=2,5

*The appropriate choice for the face driver must fall, preferably and compatibly with the characteristics of the workpiece, in the clamping ratio range of no more than **2 for turning** and **3 for grinding**. Higher clamping ratio values must be evaluated very carefully with the help and support of Tecnologie FRB.*



SOSTITUZIONE DEGLI ARTIGLI
REPLACEMENT OF THE DRIVING PINS

Per sostituire gli artigli di un trascinatore frontale non sono necessari attrezzi o chiavi.

- Prendere con le mani l'artiglio e farlo scorrere assialmente fino ad estrarlo dalla sua sede. In caso di necessità, aiutarsi con uno straccio o con una pinza per una maggiore presa.

Per introdurre nuovamente gli artigli:

- Introdurre gli artigli manualmente facendoli scorrere in direzione dell'asse del trascinatore e mantenendo il piano fresato rivolto verso l'esterno. L'operazione può essere effettuata con il trascinatore già montato in macchina, senza pregiudicare la precisione dello stesso. Durante questa operazione è consigliato mettere un velo di grasso.

I grani radiali presenti nella testina hanno la funzione di antirotazione dell'artiglio; allo stesso modo però devono permettere all'artiglio una rotazione attorno al proprio asse di circa 0,2÷0,3 mm al fine di potersi assestare in seguito alla presenza di eventuali imperfezioni o bave presenti sulla faccia del pezzo da trascinare.
I 4 grani radiali, essendo stati registrati in fase di montaggio, non devono essere più toccati.

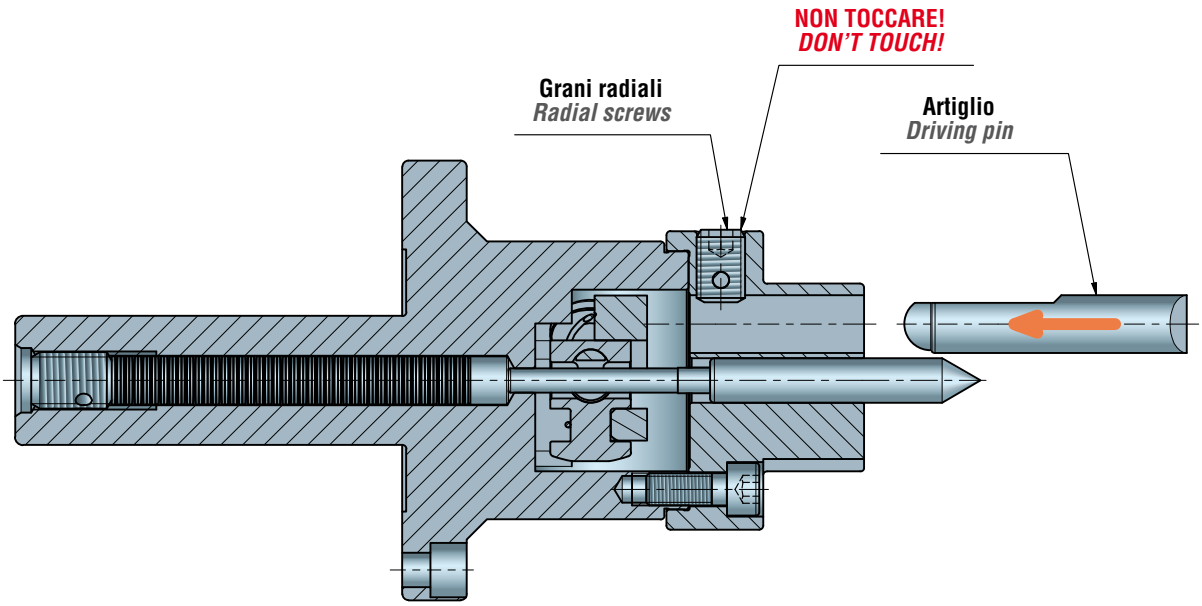
No tools or wrenches are required to replace the driving pins of the face driver.

- *Take the driving pin with your hands and slide it axially until it comes out of its seat. If necessary, help yourself with a rag or pliers for a better grip.*

To re-introduce the driving pins:

- *Introduce the driving pins manually by sliding them in the direction of the axis of the face driver and keeping the milled plane turned outwards. The operation can be carried out with the face driver already mounted on the machine, without compromising its accuracy. During this operation it is recommended to put a layer of grease.*

The radial screws present in the washer have the function of anti-rotation of the driving pin; in the same way, however, they must allow the driving pin to rotate around its axis of about 0,2÷0,3 mm in order to be able to settle down following the presence of any imperfections or burrs on the face of the piece to be dragged. The 4 radial screws, having been registered during the assembly phase and don't have to be touched



SOSTITUZIONE DELLA PUNTA CENTRALE NEI TRASCINATORI A PUNTA MOLLEGGIATA
REPLACING THE CENTER POINT IN A SPRING-LOADED FACE DRIVER

Per sostituire la punta centrale di un trascinatore frontale a punta molleggiata, non sono necessari attrezzi o chiavi.

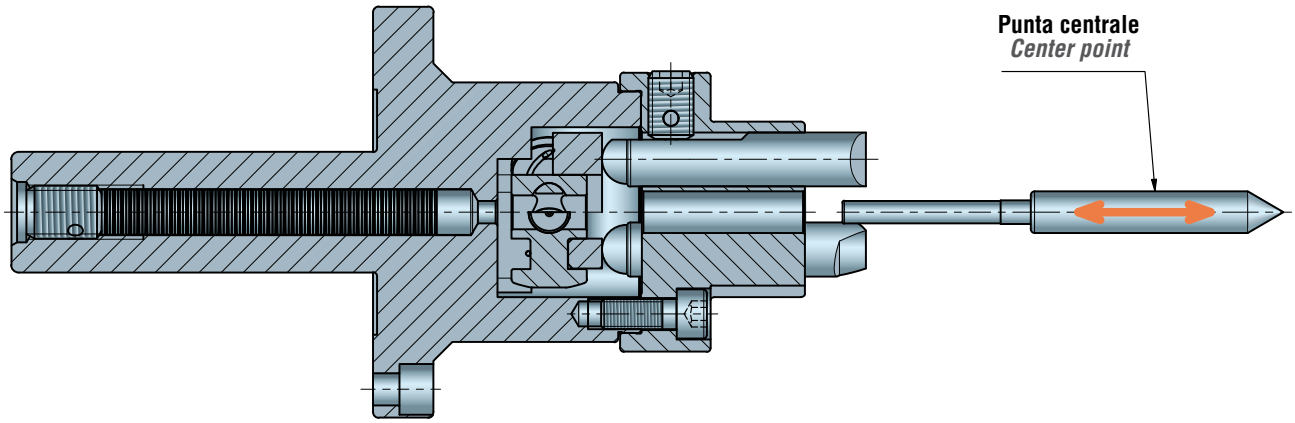
- Prendere con le mani la punta centrale e farla scorrere assialmente fino ad estrarla dalla sua sede. In caso di necessità, aiutarsi con uno straccio o un paio di pinze per una maggiore presa.

Per introdurre nuovamente la punta centrale:
- Farla scorrere in direzione dell'asse del trascinatore, fino a farla arrivare nel suo appoggio. L'operazione può essere effettuata con il trascinatore già montato in macchina, senza pregiudicare la precisione dello stesso.

No tools or wrenches are required to replace the center point of a spring-loaded face driver.

- *Take the center point with your hands and slide it axially until it comes out of its seat. If necessary, help yourself with a rag or a pliers for a better grip.*

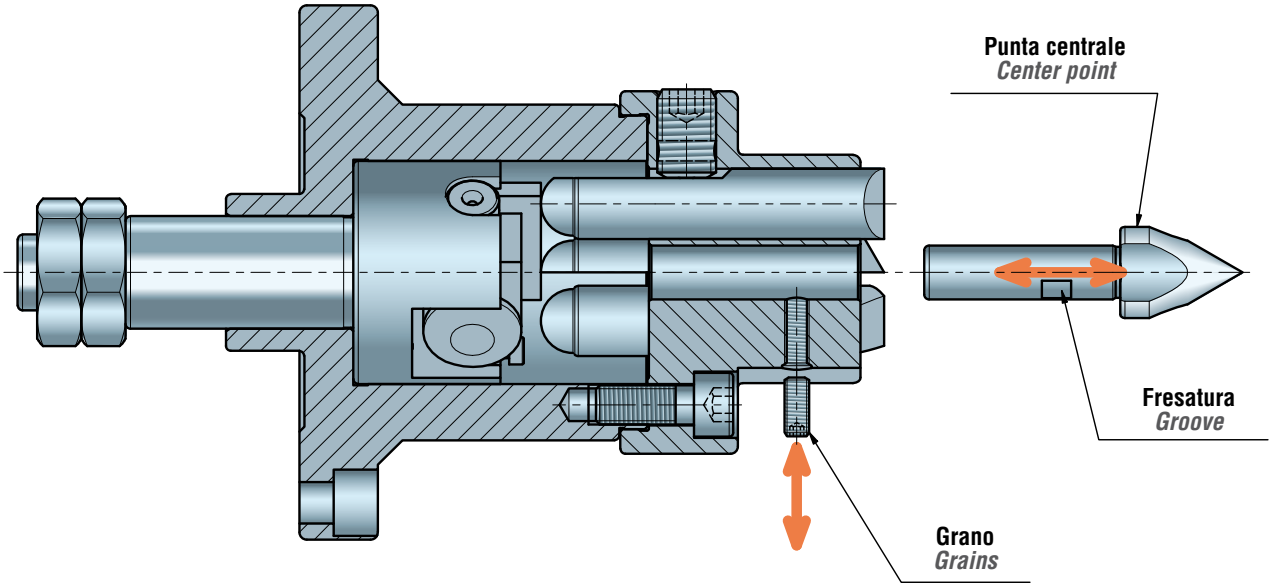
To re-introduce the center point:
- *Slide it in the direction of the face driver axis, until it reaches its support. The operation can be carried out with the face driver already mounted on the machine, without compromising the accuracy of the same.*



SOSTITUZIONE DELLA PUNTA CENTRALE NEI TRASCINATORI A PUNTA FISSA
REPLACING THE CENTER POINT IN A FACE DRIVER WITH FIXED CENTER POINT

Nei trascinatori frontali a punta fissa, ci sono uno o due grani (a seconda del modello) che tengono bloccata la punta centrale nella sua sede. Prima di procedere alla sostituzione, allentare i grani che la bloccano, ed una volta sostituita la punta centrale stringere nuovamente i grani di bloccaggio, facendo attenzione ad impegnarli nuovamente lungo le fresature della punta centrale.

In the face drivers with fixed center point, there are one or two grains (depending on the model) which keep the center point locked in its seat. Before proceeding with the replacement, loosen the grains that block it, and once the center point has been replaced, tighten the locking grain again, making sure to re-engage them along the grooves of the center point.



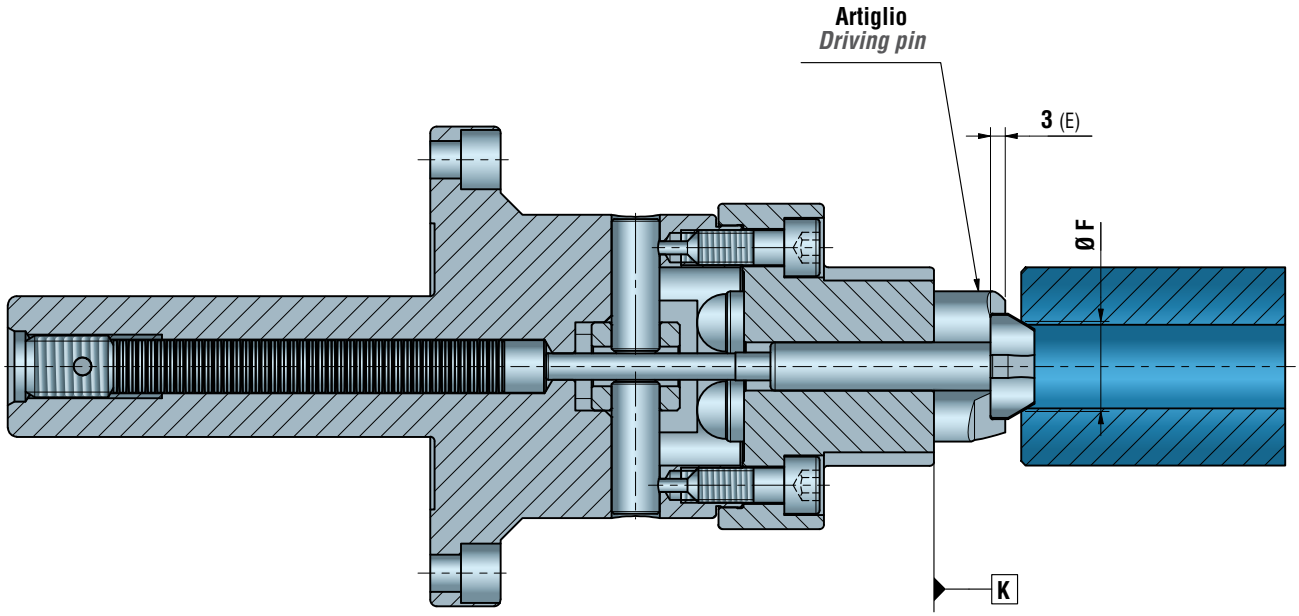
MODALITÀ D'IMPIEGO DELLA PUNTA A CAPRUGGINE NEI TRASCINATORI MOLLEGGIATI
METHOD OF USE OF THE CENTER WITH SLOTS IN SPRING LOADED FACE DRIVER

Con il trascinatore frontale si possono lavorare anche particolari che invece del centro, hanno dei fori più o meno grandi, dipendenti dalle caratteristiche del pezzo. È sufficiente montare la punta centrale a capruggine della dimensione adeguata.

Quando si usano le punte a capruggine, bisogna controllare sempre la lunghezza degli artigli di trascinamento, la quale non deve mai essere inferiore di 3 mm rispetto alla misura originale indicata nel catalogo. Questo vale a dire che gli artigli di trascinamento si possono affilare accorciandoli fino ad un massimo di 3 mm (E) rispetto alla loro lunghezza originale.
Per un corretto funzionamento della punta a capruggine, è necessario che questa, quando è sotto carico, non sia mai in battuta contro il piano (K) della testina porta artigli.
La dimensione della capruggine è da scegliere in funzione della misura "Ø F".

With the face driver you can also machining workpieces that instead of the center, have more or less large holes, depending on the characteristics of the workpiece. It is sufficient to mount the CENTER POINTS WITH SLOTS of the right size.

When using the center points with slots, always check the length of the driving pins, which must never be less than 3 mm than the original size indicated in the catalogue.
This means that the driving pins can be sharpened by shortening them up to a maximum of 3 mm (E) compared to their original length.
For a correct functioning of the CENTER POINTS WITH SLOTS, it is necessary that this, when under load, never touches the plane (K) of the face plate.
The size of the CENTER POINTS WITH SLOTS has to be chosen according to the measure "Ø F".



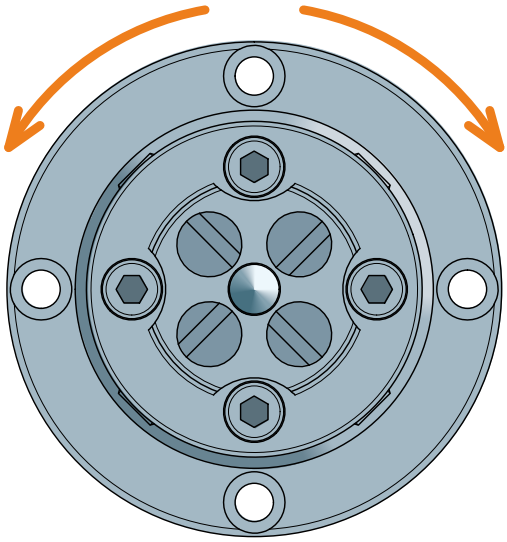
DEFINIZIONE DEL SENSO DI ROTAZIONE DEL TRASCINATORE FRONTALE
DEFINITION OF THE DIRECTION OF ROTATION OF THE FACE DRIVER

Sul trascinatore frontale possono essere montati artigli con rotazione di lavorazione antioraria ed artigli con rotazione oraria. Per definire il senso di rotazione, guardarlo frontalmente.
Il lato delle lame con l'inclinazione maggiore è quello di traino, quindi quello in cui deve tirare.

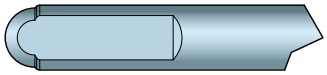
Esempio: lato inclinato destro, rotazione oraria;
lato inclinato sinistro, rotazione antioraria. Una volta montato in macchina il trascinatore, verificare che la rotazione del mandrino corrisponda con quella degli artigli montati sul trascinatore.

Driving pins with counterclockwise rotation and driving pins with clockwise rotation can be mounted on the face driver. To define the direction of rotation, look at it from the front.
The side of the blades with the greatest inclination is the towing one, therefore the one in which it must pull.

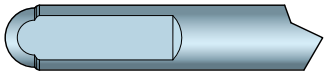
Example: right inclined side, clockwise rotation; left inclined side, counterclockwise rotation. Once the driver has been mounted on the machine, check that the rotation of the spindle corresponds to that of the driving pins mounted on the face driver.



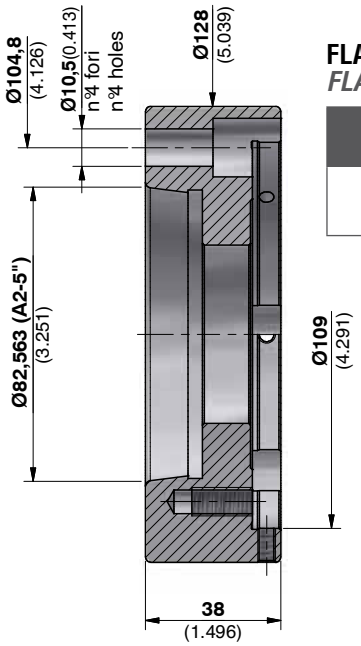
ROTAZIONE ANTIORARIA
COUNTERCLOCKWISE ROTATION



ROTAZIONE ORARIA
CLOCKWISE ROTATION

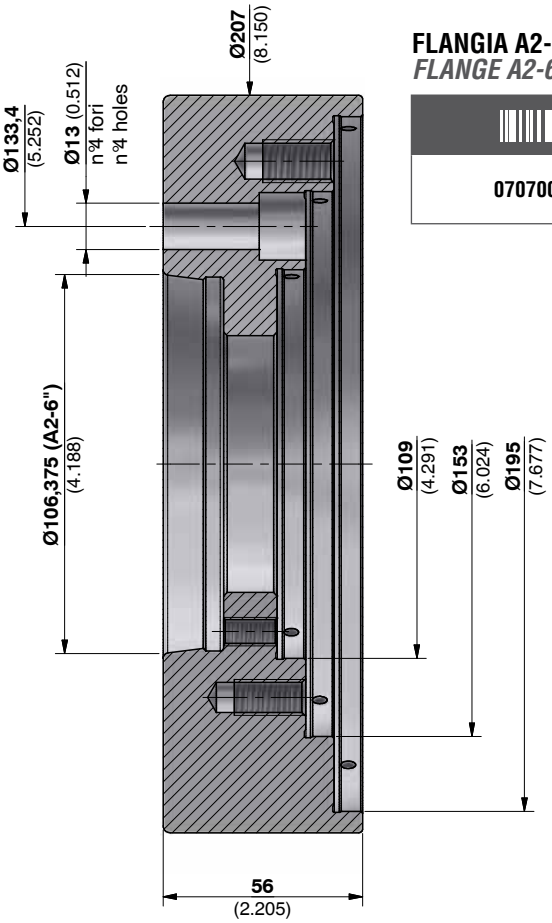


FLANGE PORTA TRASCINATORI CON FORI DI CENTRAGGIO
FACE DRIVER ADAPTORS WITH CENTERING HOLES



FLANGIA A2-5
FLANGE A2-5

070700558



FLANGIA A2-6
FLANGE A2-6

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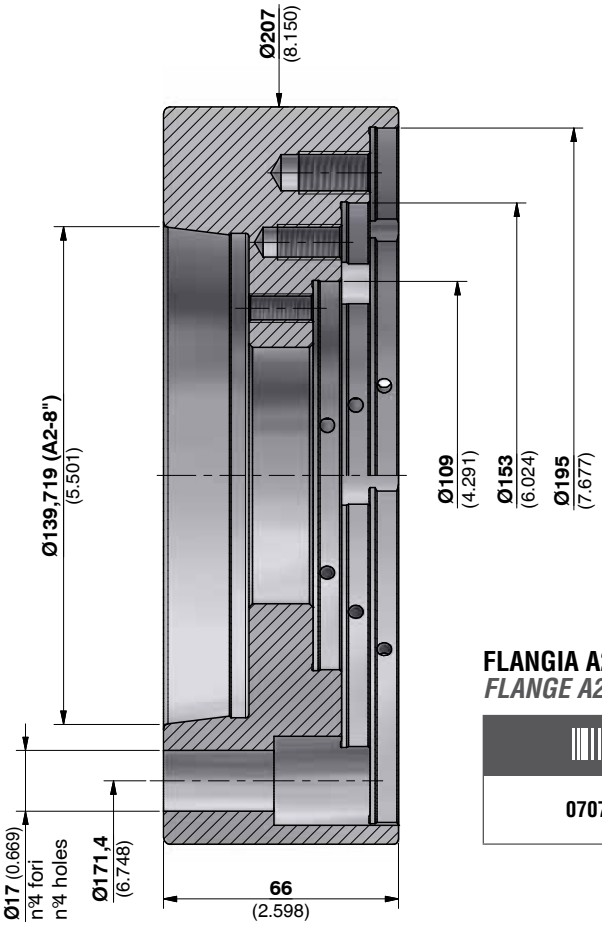

FLANGIA A2-8
FLANGE A2-8

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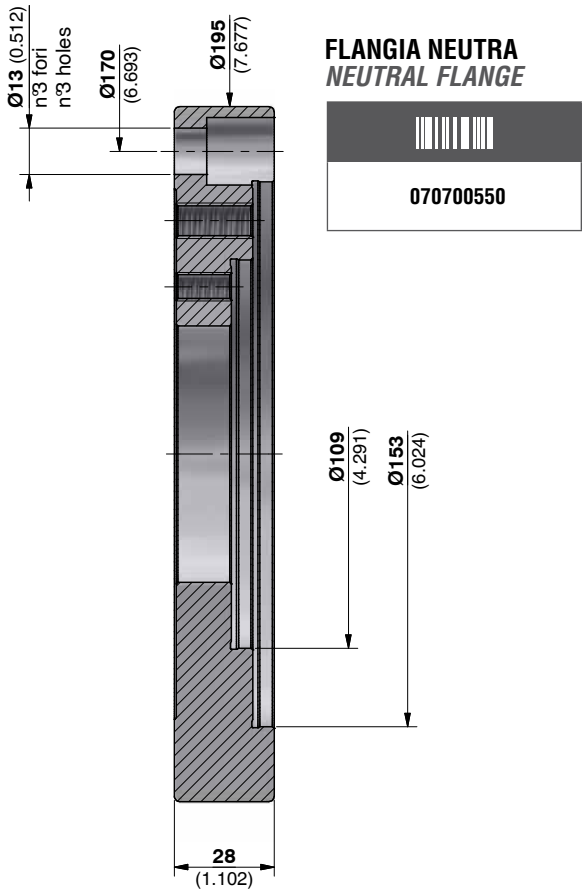
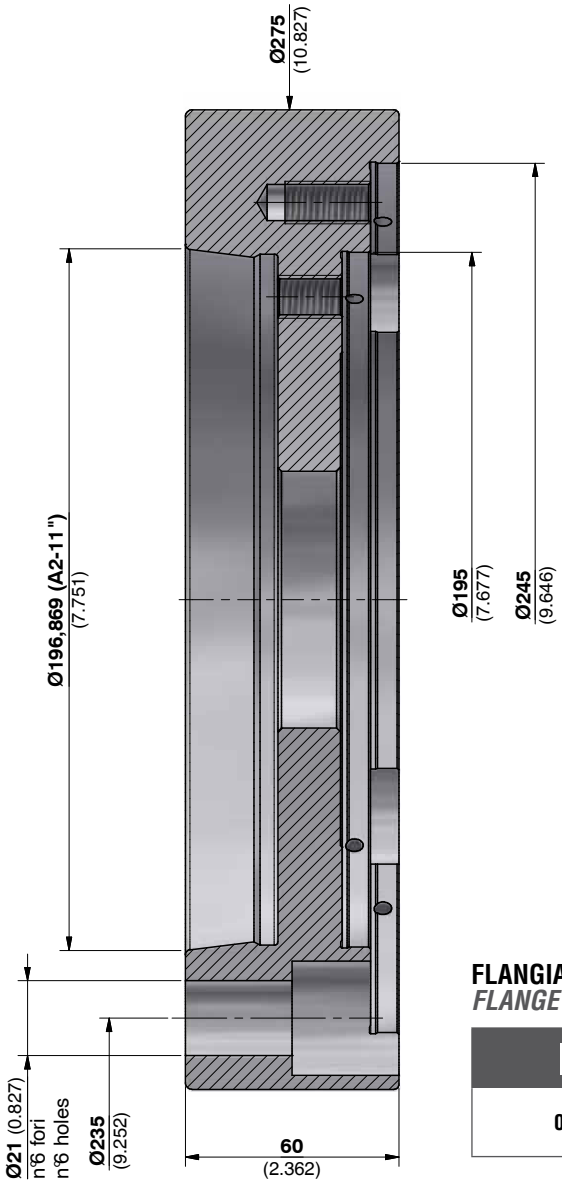
FLANGE PORTA TRASCINATORI CON FORI DI CENTRAGGIO
FACE DRIVER ADAPTORS WITH CENTERING HOLES



FLANGIA NEUTRA
NEUTRAL FLANGE

070700550



FLANGIA A2-11
FLANGE A2-11

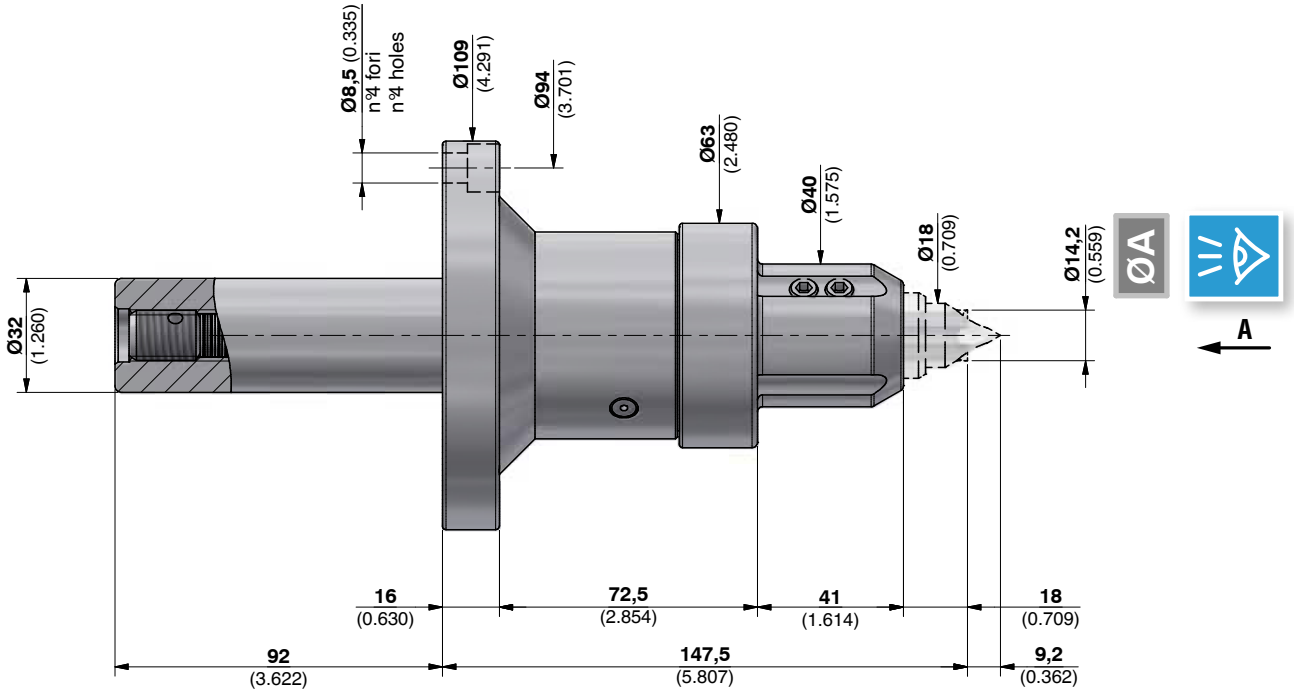
070700559

TRASCINATORI *FACE DRIVERS*	FLANGIA *FLANGE* A2-5	FLANGIA *FLANGE* A2-6	FLANGIA *FLANGE* A2-8	FLANGIA *FLANGE* A2-11
6/30				*
12/50				*
15/55				*
20/60				*
20/70				*
45/120				*
100/220				
180/300				
7/25				*
12/70				*
15/75				*
20/80				*
20/100				*
45/150				*
100/300				
180/400				

* **Possibile il montaggio su questa flangia unicamente impiegando anche la flangia neutra.**
It can be mounted on this flange only using the neutral flange as well.

In quale flangia può essere montato il trascinatore.
In which flange the face driver can be mounted.

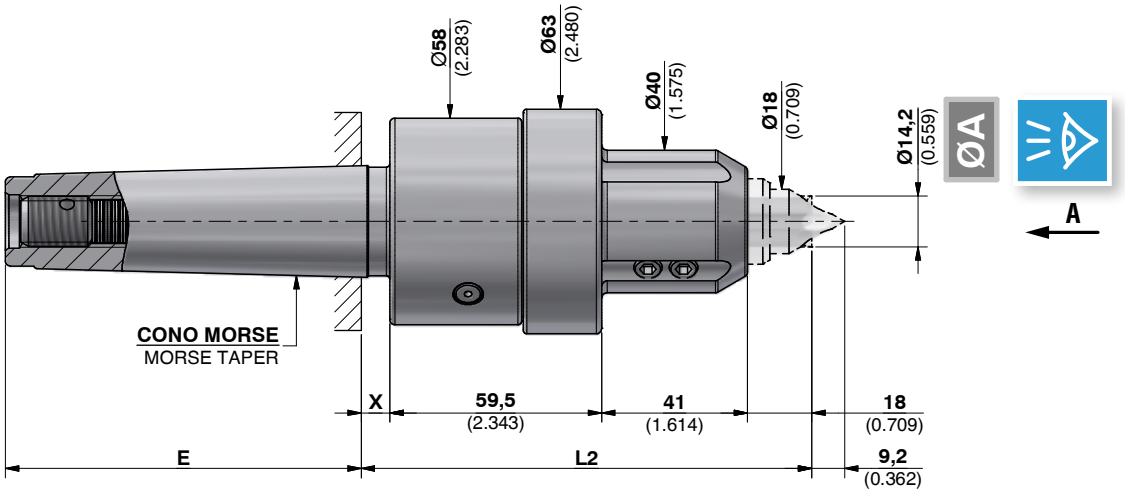
TRASCINATORE FRONTALE 6/30 VERSIONE FLANGIATA
FACE DRIVER 6/30 FLANGED VERSION



ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

070760048A

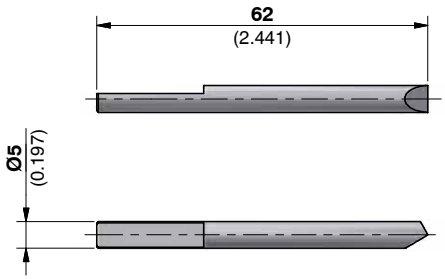
TRASCINATORE FRONTALE 6/30 VERSIONE CONO MORSE
FACE DRIVER 6/30 MORSE TAPER VERSION



		E	X	L2
070752380A	CM3/MT3	79 (3.110)	6 (0.236)	124,5 (4.902)
070752382A	CM4/MT4	100 (3.937)	8 (0.315)	126,5 (4.980)
070752384A	CM5/MT5	100 (3.937)	8 (0.315)	126,5 (4.980)
070752386A	CM6/MT6	100 (3.937)	8 (0.315)	126,5 (4.980)

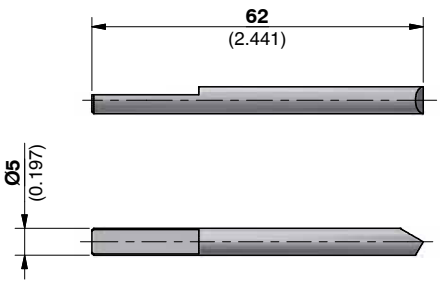
ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

ARTIGLI
DRIVING PINS



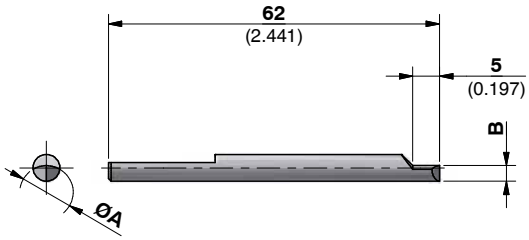
Antiorario *CCW*

	Ø A
080845004	14,2 (0.559)



Orario *CW*

	Ø A
080845001	14,2 (0.559)



Antiorario *CCW*

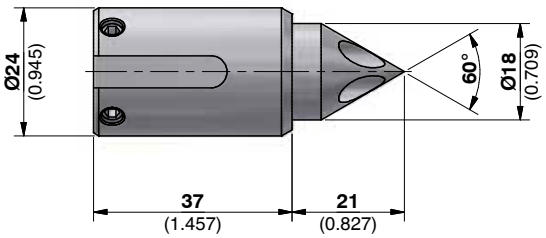
	Ø A	B
090901009	9 (0.354)	2,4 (0.094)
090901010	10 (0.394)	2,9 (0.114)
090901011	11 (0.433)	3,4 (0.134)
090901012	12 (0.472)	3,9 (0.154)

Orario *CW*

	Ø A	B
090900009	9 (0.354)	2,4 (0.094)
090900010	10 (0.394)	2,9 (0.114)
090900011	11 (0.433)	3,4 (0.134)
090900012	12 (0.472)	3,9 (0.154)

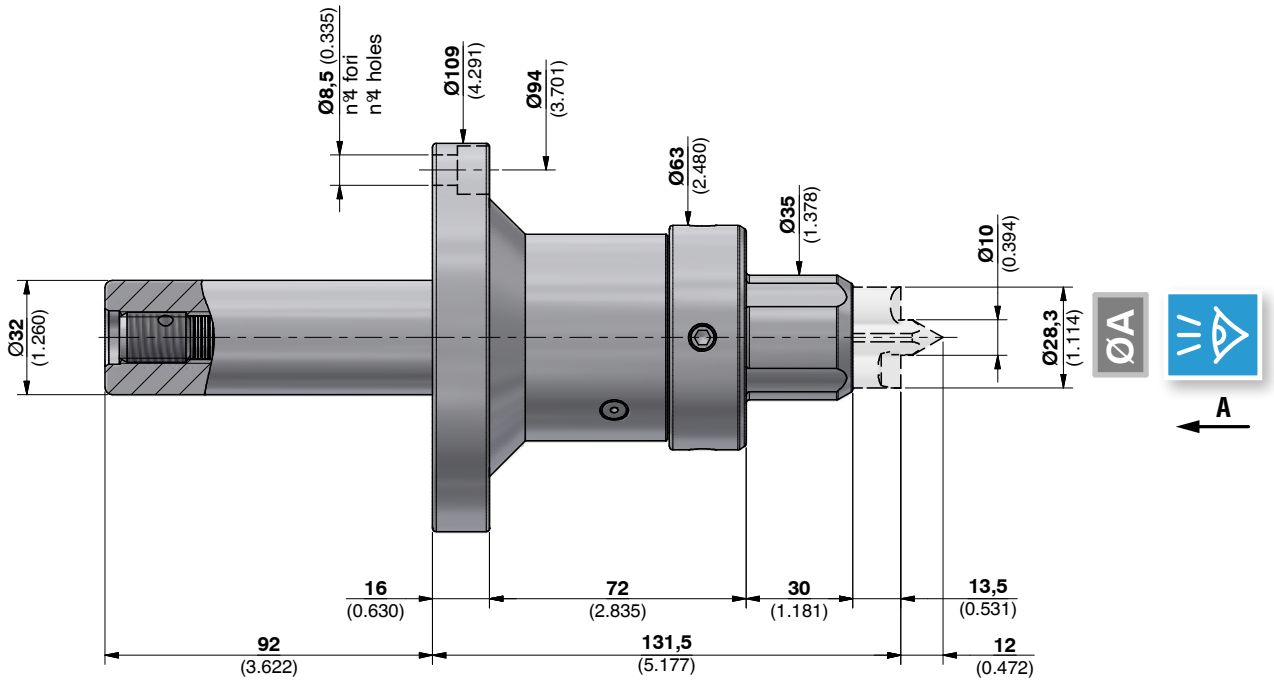
ØA **Diametro di presa degli artigli**
Clamping diameter of the driving pins.

PUNTA CENTRALE PORTA ARTIGLI
CENTER POINT SUPPORTING DRIVING PINS



	per fori o centri / *for holes or centers*	
	dal / *from* Ø	al / *to the* Ø
072102762	1 (0.039)	5 (0.197)

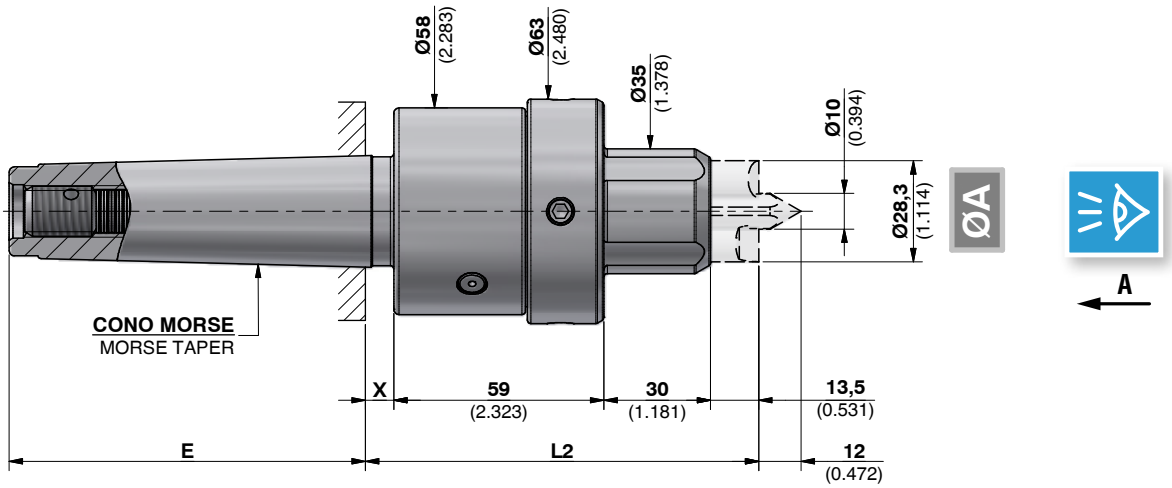
TRASCINATORE FRONTALE 12/50 VERSIONE FLANGIATA
FACE DRIVER 12/50 FLANGED VERSION



ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

070760018A

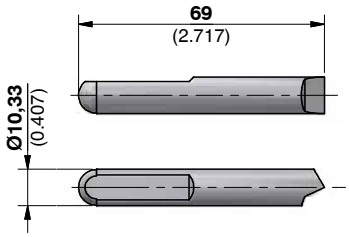
TRASCINATORE FRONTALE 12/50 VERSIONE CONO MORSE
FACE DRIVER 12/50 MORSE TAPER VERSION



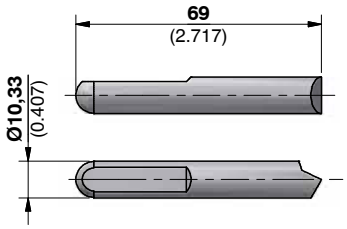
		E	X	L2
070752033A	CM3/MT3	79 (3.110)	6 (0.236)	108,5 (4.272)
070752141A	CM4/MT4	100 (3.937)	8 (0.315)	110,5 (4.350)
070752251A	CM5/MT5	100 (3.937)	8 (0.315)	110,5 (4.350)
070752361A	CM6/MT6	100 (3.937)	8 (0.315)	110,5 (4.350)

ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

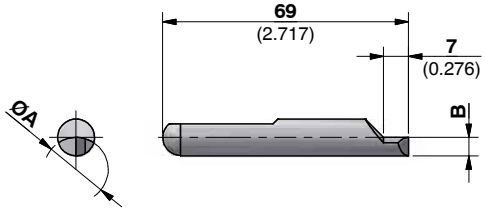
ARTIGLI
DRIVING PINS



Antiorario CCW	Ø A
080809002	28,3 (1.114)



Orario CW	Ø A
080809003	28,3 (1.114)

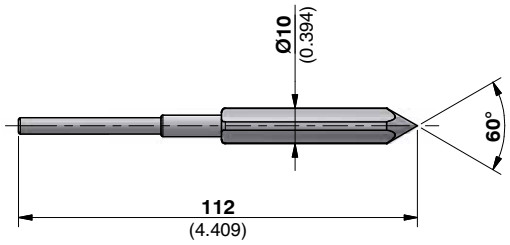


ØA **Diametro di presa degli artigli**
Clamping diameter of the driving pins

Antiorario CCW	Ø A	B
090909014	14 (0.551)	3,1 (0.122)
090909015	15 (0.591)	3,6 (0.142)
090909016	16 (0.630)	4,1 (0.161)
090909017	17 (0.669)	4,6 (0.181)
090909018	18 (0.709)	5,1 (0.201)
090909019	19 (0.748)	5,6 (0.220)
090909020	20 (0.787)	6,1 (0.240)
090909021	21 (0.827)	6,6 (0.260)
090909022	22 (0.866)	7,1 (0.280)
090909023	23 (0.906)	7,6 (0.299)
090909024	24 (0.945)	8,1 (0.319)
090909025	25 (0.984)	8,6 (0.339)

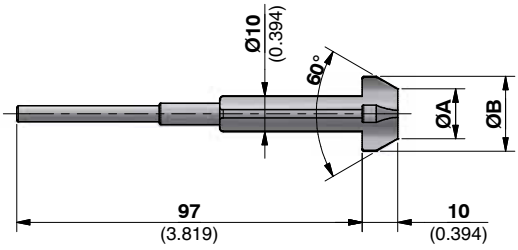
Orario CW	Ø A	B
090909114	14 (0.551)	3,1 (0.122)
090909115	15 (0.591)	3,6 (0.142)
090909116	16 (0.630)	4,1 (0.161)
090909117	17 (0.669)	4,6 (0.181)
090909118	18 (0.709)	5,1 (0.201)
090909119	19 (0.748)	5,6 (0.220)
090909120	20 (0.787)	6,1 (0.240)
090909121	21 (0.827)	6,6 (0.260)
090909122	22 (0.866)	7,1 (0.280)
090909123	23 (0.906)	7,6 (0.299)
090909124	24 (0.945)	8,1 (0.319)
090909125	25 (0.984)	8,6 (0.339)

PUNTA CENTRALE
CENTER POINT



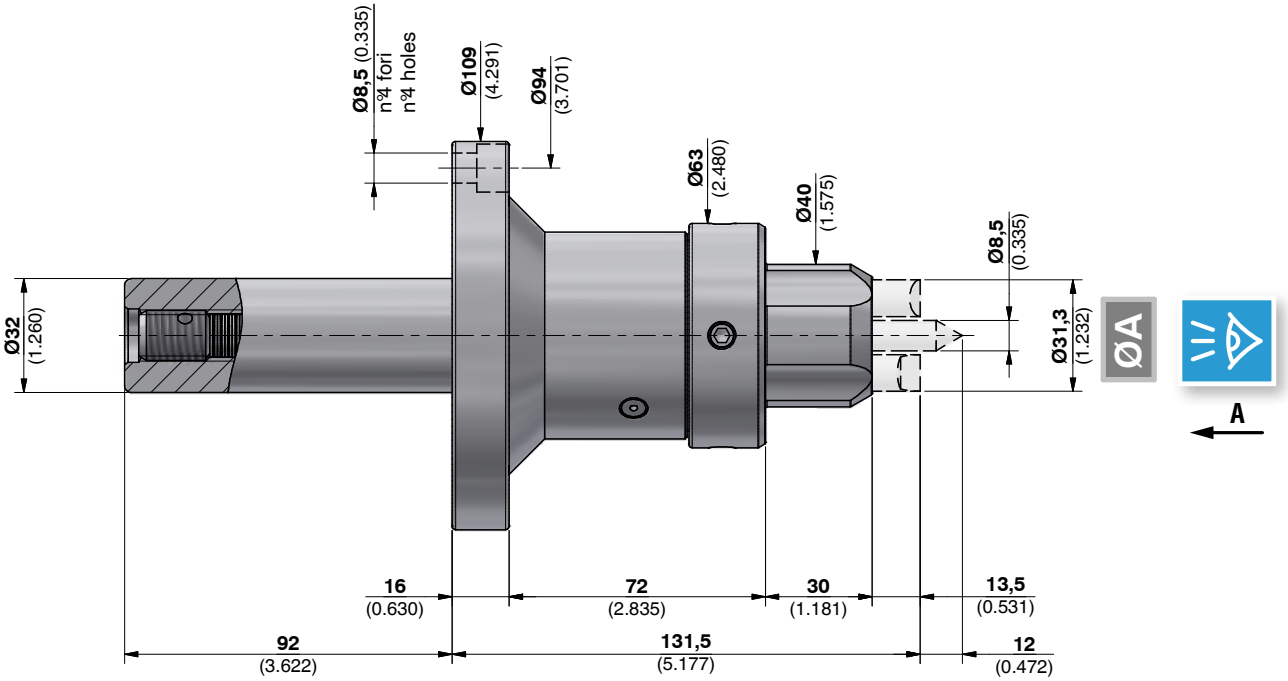
072102741

PUNTE CENTRALI A CAPRUGGINE
CENTER POINTS WITH SLOTS



	Dimensioni *Dimensions*		Per centri o fori *For centers or holes*	
	Ø A	Ø B	dal / *from* Ø	al / *to the* Ø
171711009	5 (0.197)	12 (0.472)	7,5 (0.295)	10,5 (0.413)
171711010	8 (0.315)	15 (0.591)	10,5 (0.413)	13,5 (0.531)
171711011	11 (0.433)	18 (0.709)	13.5 (0.531)	16,5 (0.650)
171711012	14 (0.551)	21 (0.827)	16,5 (0.650)	19,5 (0.768)
171711013	17 (0.669)	24 (0.945)	19,5 (0.768)	22,5 (0.886)
171711014	20 (0.787)	27 (1.063)	22,5 (0.886)	25,5 (1.004)

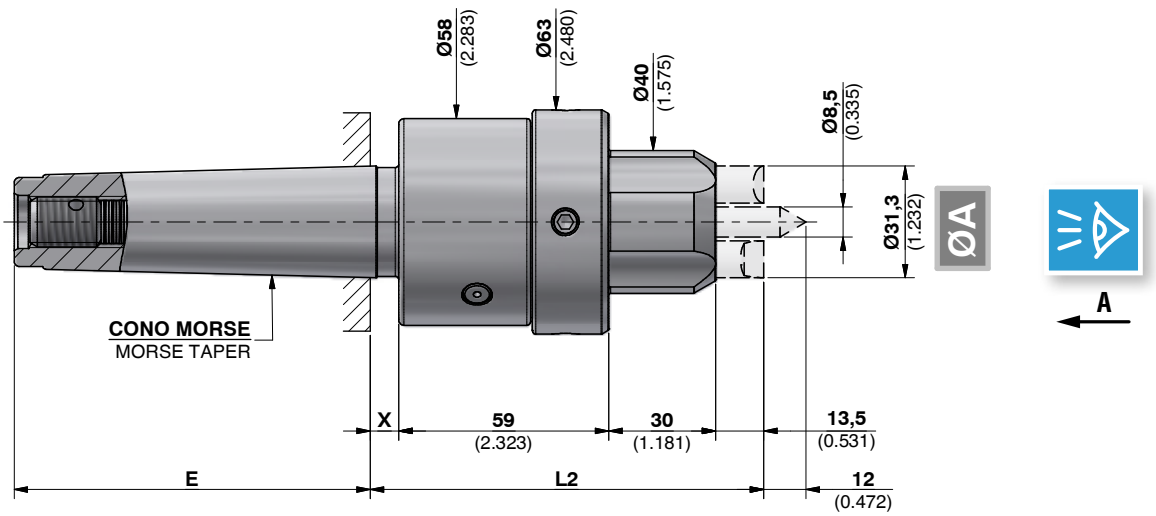
TRASCINATORE FRONTALE 15/55 VERSIONE FLANGIATA
FACE DRIVER 15/55 FLANGED VERSION



ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

070752406A

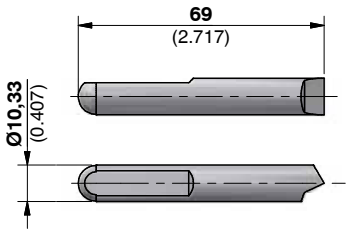
TRASCINATORE FRONTALE 15/55 VERSIONE CONO MORSE
FACE DRIVER 15/55 MORSE TAPER VERSION



		E	X	L2
070752390A	CM3/MT3	79 (3.110)	6 (0.236)	108,5 (4.272)
070752392A	CM4/MT4	100 (3.937)	8 (0.315)	110,5 (4.350)
070752394A	CM5/MT5	100 (3.937)	8 (0.315)	110,5 (4.350)
070752396A	CM6/MT6	100 (3.937)	8 (0.315)	110,5 (4.350)

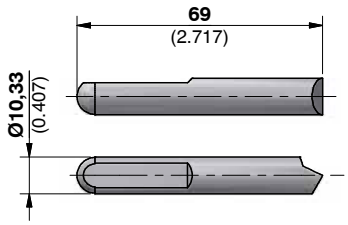
ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

ARTIGLI
DRIVING PINS



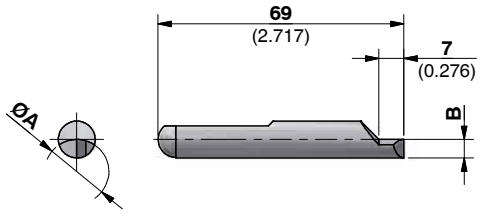
Antiorario *CCW*

	Ø A
080809002	31,3 (1.232)



Orario *CW*

	Ø A
080809003	31,3 (1.232)



ØA **Diametro di presa degli artigli**
Clamping diameter of the driving pins

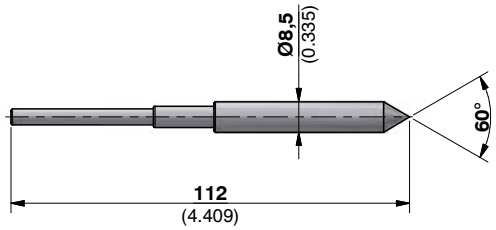
Antiorario *CCW*

	Ø A	B
090909014	17 (0.669)	3,1 (0.122)
090909015	18 (0.709)	3,6 (0.142)
090909016	19 (0.748)	4,1 (0.161)
090909017	20 (0.787)	4,6 (0.181)
090909018	21 (0.827)	5,1 (0.201)
090909019	22 (0.866)	5,6 (0.220)
090909020	23 (0.906)	6,1 (0.240)
090909021	24 (0.945)	6,6 (0.260)
090909022	25 (0.984)	7,1 (0.280)
090909023	26 (1.024)	7,6 (0.299)
090909024	27 (1.063)	8,1 (0.319)
090909025	28 (1.102)	8,6 (0.339)

Orario *CW*

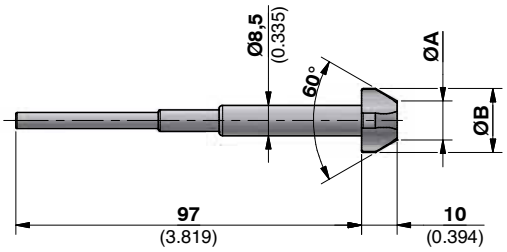
	Ø A	B
090909114	17 (0.669)	3,1 (0.122)
090909115	18 (0.709)	3,6 (0.142)
090909116	19 (0.748)	4,1 (0.161)
090909117	20 (0.787)	4,6 (0.181)
090909118	21 (0.827)	5,1 (0.201)
090909119	22 (0.866)	5,6 (0.220)
090909120	23 (0.906)	6,1 (0.240)
090909121	24 (0.945)	6,6 (0.260)
090909122	25 (0.984)	7,1 (0.280)
090909123	26 (1.024)	7,6 (0.299)
090909124	27 (1.063)	8,1 (0.319)
090909125	28 (1.102)	8,6 (0.339)

PUNTA CENTRALE
CENTER POINT



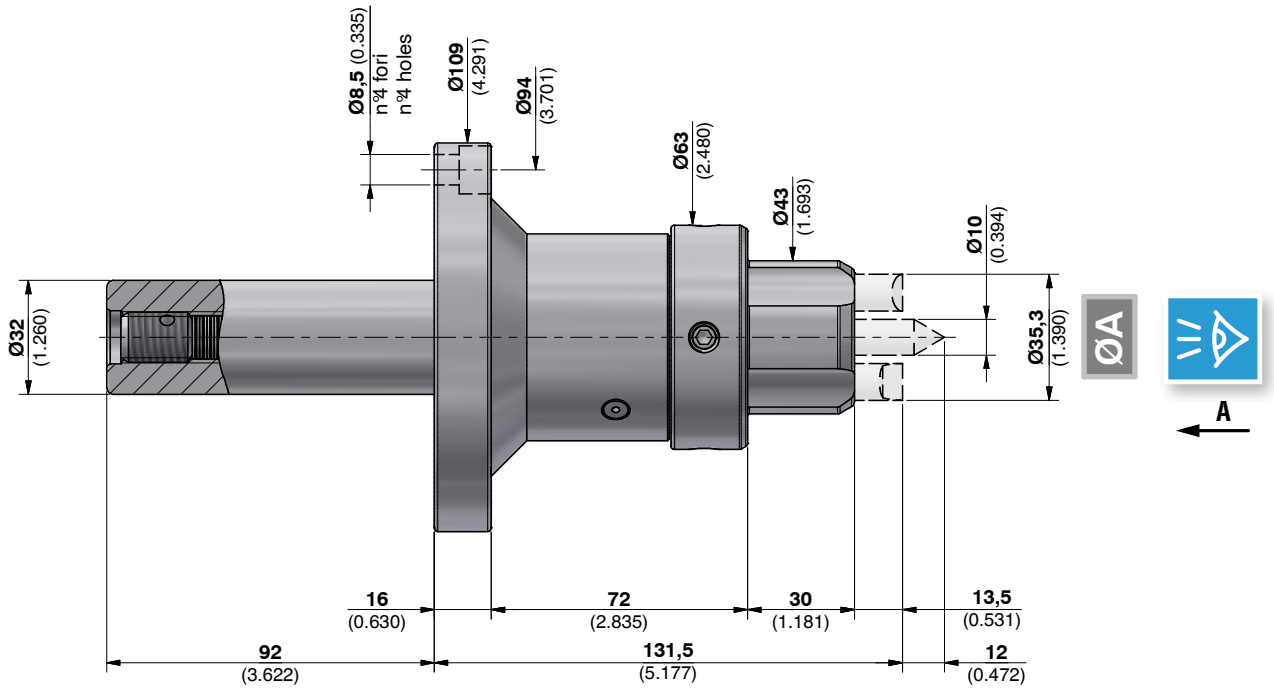
072102766

PUNTE CENTRALI A CAPRUGGINE
CENTER POINTS WITH SLOTS



	Dimensioni *Dimensions*		Per centri o fori *For centers or holes*	
	Ø A	Ø B	dal / *from* Ø	al / *to the* Ø
171711015	5 (0.197)	12 (0.472)	7,5 (0.295)	10,5 (0.413)
171711016	8 (0.315)	15 (0.591)	10,5 (0.413)	13,5 (0.531)
171711017	11 (0.433)	18 (0.709)	13,5 (0.531)	16,5 (0.650)
171711019	14 (0.551)	21 (0.827)	16,5 (0.650)	19,5 (0.768)
171711020	17 (0.669)	24 (0.945)	19,5 (0.768)	22,5 (0.886)
171711022	20 (0.787)	27 (1.063)	22,5 (0.886)	25,5 (1.004)

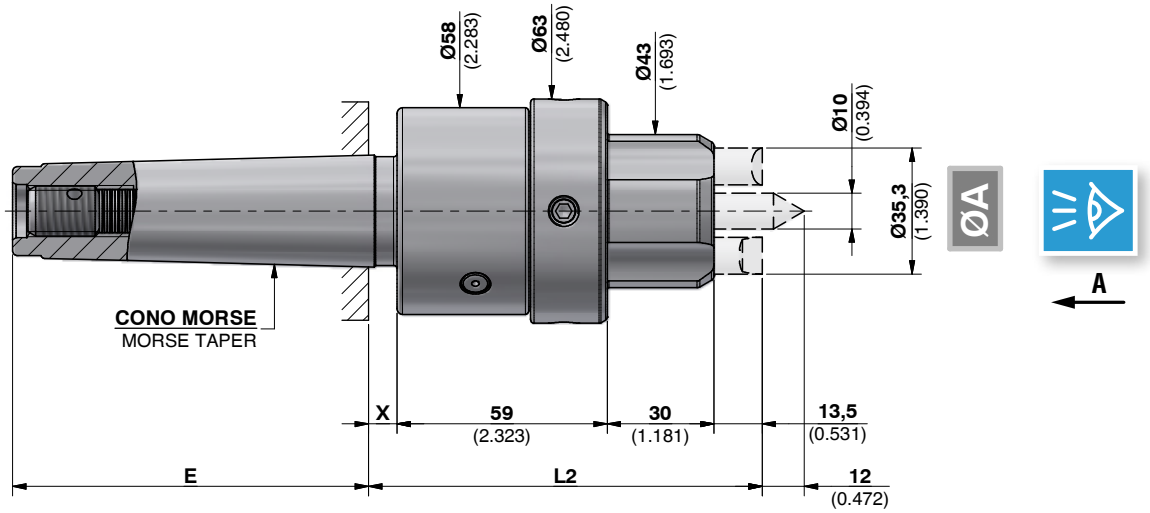
TRASCINATORE FRONTALE 20/60 VERSIONE FLANGIATA
FACE DRIVER 20/60 FLANGED VERSION



ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

070752408A

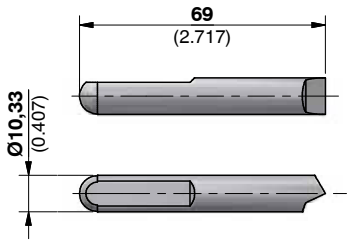
TRASCINATORE FRONTALE 20/60 VERSIONE CONO MORSE
FACE DRIVER 20/60 MORSE TAPER VERSION



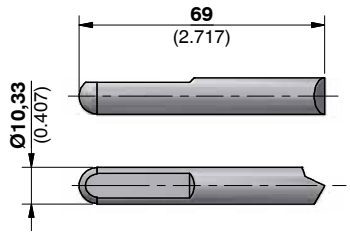
		E	X	L2
070752398A	CM3/MT3	79 (3.110)	6 (0.236)	108,5 (4.272)
070752400A	CM4/MT4	100 (3.937)	8 (0.315)	110,5 (4.350)
070752402A	CM5/MT5	100 (3.937)	8 (0.315)	110,5 (4.350)
070752404A	CM6/MT6	100 (3.937)	8 (0.315)	110,5 (4.350)

ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

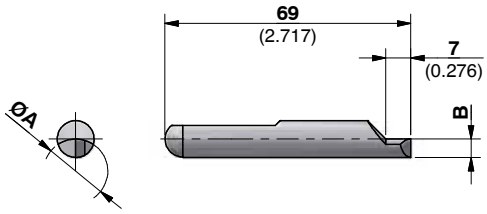
ARTIGLI
DRIVING PINS



Antiorario *CCW*	
	Ø A
080809002	35,3 (1.390)



Orario *CW*	
	Ø A
080809003	35,3 (1.390)

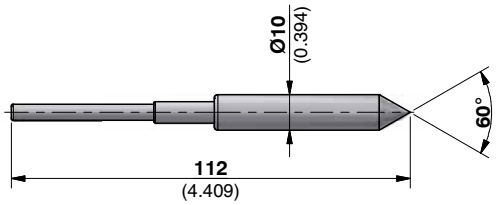


ØA **Diametro di presa degli artigli**
Clamping diameter of the driving pins

Antiorario *CCW*		
	Ø A	B
090909014	21 (0.827)	3,1 (0.122)
090909015	22 (0.866)	3,6 (0.142)
090909016	23 (0.906)	4,1 (0.161)
090909017	24 (0.945)	4,6 (0.181)
090909018	25 (0.984)	5,1 (0.201)
090909019	26 (1.024)	5,6 (0.220)
090909020	27 (1.063)	6,1 (0.240)
090909021	28 (1.102)	6,6 (0.260)
090909022	29 (1.142)	7,1 (0.280)
090909023	30 (1.181)	7,6 (0.299)
090909024	31 (1.220)	8,1 (0.319)
090909025	32 (1.260)	8,6 (0.339)

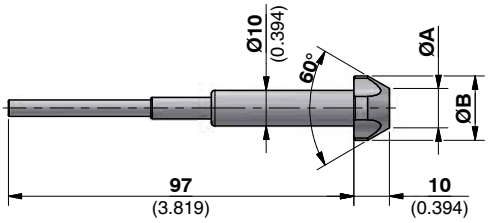
Orario *CW*		
	Ø A	B
090909114	21 (0.827)	3,1 (0.122)
090909115	22 (0.866)	3,6 (0.142)
090909116	23 (0.906)	4,1 (0.161)
090909117	24 (0.945)	4,6 (0.181)
090909118	25 (0.984)	5,1 (0.201)
090909119	26 (1.024)	5,6 (0.220)
090909120	27 (1.063)	6,1 (0.240)
090909121	28 (1.102)	6,6 (0.260)
090909122	29 (1.142)	7,1 (0.280)
090909123	30 (1.181)	7,6 (0.299)
090909124	31 (1.220)	8,1 (0.319)
090909125	32 (1.260)	8,6 (0.339)

PUNTA CENTRALE
CENTER POINT



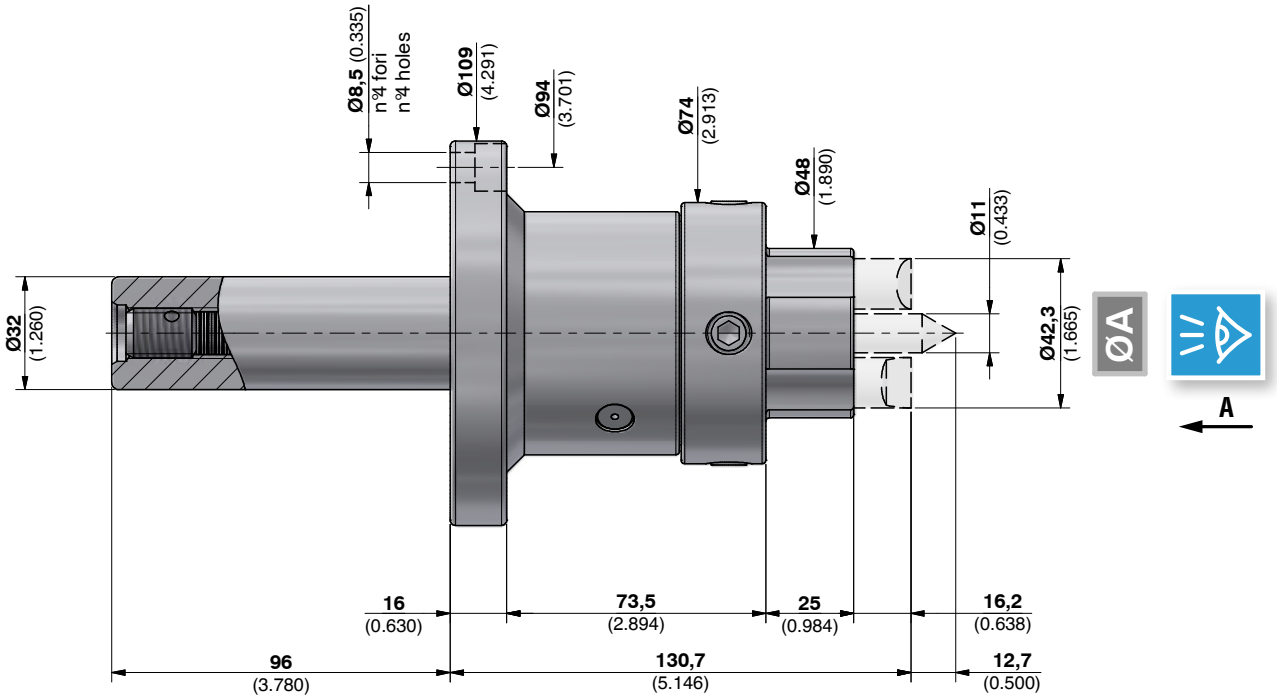
072102767

PUNTE CENTRALI A CAPRUGGINE
CENTER POINTS WITH SLOTS



	Dimensioni *Dimensions*		Per centri o fori *For centers or holes*	
	Ø A	Ø B	dal / *from* Ø	al / *to the* Ø
171712018	5 (0.197)	12 (0.472)	7,5 (0.295)	10,5 (0.413)
171712019	8 (0.315)	15 (0.591)	10,5 (0.413)	13,5 (0.531)
171712020	11 (0.433)	18 (0.709)	13,5 (0.531)	16,5 (0.650)
171712022	14 (0.551)	21 (0.827)	16,5 (0.650)	19,5 (0.768)
171712024	17 (0.669)	24 (0.945)	19,5 (0.768)	22,5 (0.886)
171712026	20 (0.787)	27 (1.063)	22,5 (0.886)	25,5 (1.004)
171712027	23 (0.906)	30 (1.181)	25,5 (1.004)	28,5 (1.122)

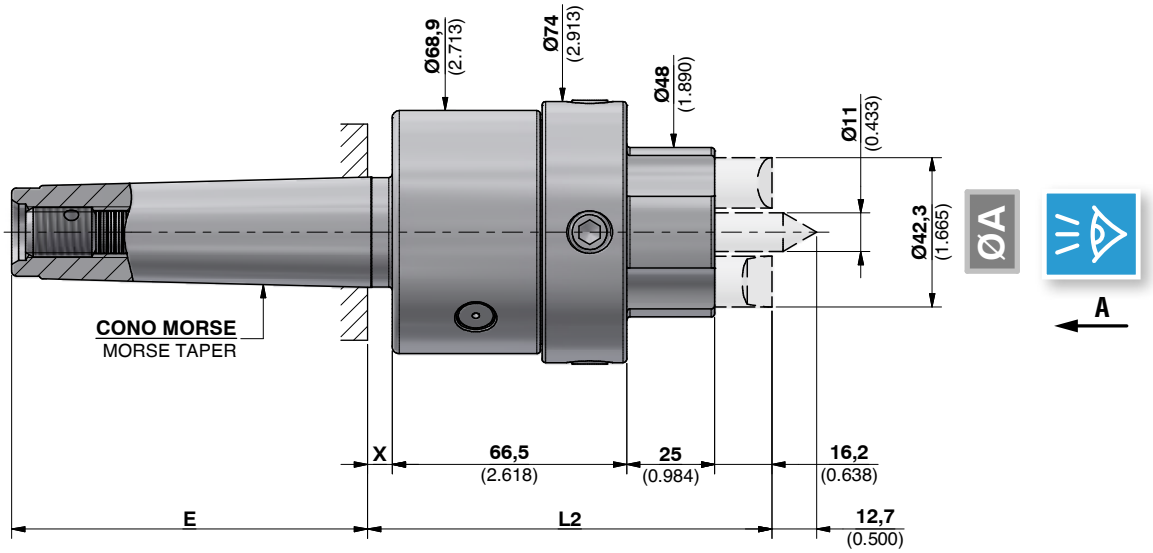
TRASCINATORE FRONTALE 20/70 VERSIONE FLANGIATA
FACE DRIVER 20/70 FLANGED VERSION



ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

070760030A

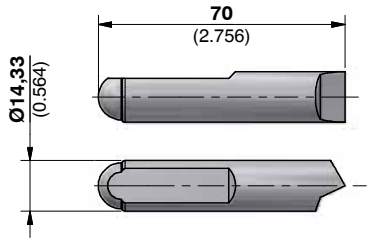
TRASCINATORE FRONTALE 20/70 VERSIONE CONO MORSE
FACE DRIVER 20/70 MORSE TAPER VERSION



		E	X	L2
070752365A	CM4 / MT4	101 (3.976)	7 (0.276)	114,7 (4.516)
070752367A	CM5 / MT5	101 (3.976)	7 (0.276)	114,7 (4.516)
070752369A	CM6 / MT6	96 (3.780)	12 (0.472)	119,7 (4.713)

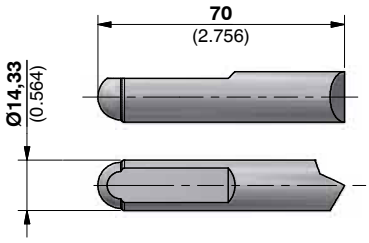
ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

ARTIGLI
DRIVING PINS



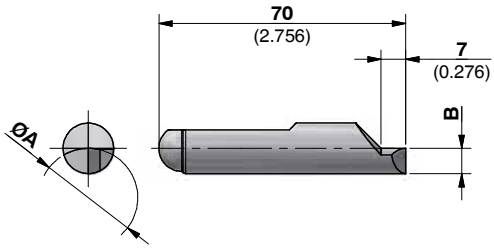
Antiorario
CCW

	Ø A
080809004	42,3 (1.665)



Orario
CW

	Ø A
080809005	42,3 (1.665)



ØA **Diametro di presa degli artigli**
Clamping diameter of the driving pins

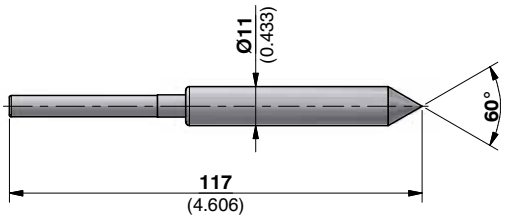
Antiorario
CCW

	Ø A	B
090909221	21 (0.827)	3,7 (0.146)
090909222	22 (0.866)	4,2 (0.165)
090909223	23 (0.906)	4,7 (0.185)
090909224	24 (0.945)	5,2 (0.205)
090909225	25 (0.984)	5,7 (0.224)
090909226	26 (1.024)	6,2 (0.244)
090909227	27 (1.063)	6,7 (0.264)
090909228	28 (1.102)	7,2 (0.283)
090909229	29 (1.142)	7,7 (0.303)
090909230	30 (1.181)	8,2 (0.323)
090909231	31 (1.220)	8,7 (0.343)
090909232	32 (1.260)	9,2 (0.362)
090909233	33 (1.299)	9,7 (0.382)
090909234	34 (1.339)	10,2 (0.402)
090909235	35 (1.378)	10,7 (0.421)
090909236	36 (1.417)	11,2 (0.441)

Orario
CW

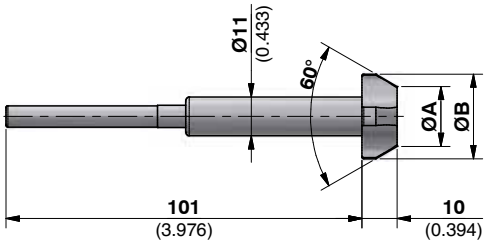
	Ø A	B
090909321	21 (0.827)	3,7 (0.146)
090909322	22 (0.866)	4,2 (0.165)
090909323	23 (0.906)	4,7 (0.185)
090909324	24 (0.945)	5,2 (0.205)
090909325	25 (0.984)	5,7 (0.224)
090909326	26 (1.024)	6,2 (0.244)
090909327	27 (1.063)	6,7 (0.264)
090909328	28 (1.102)	7,2 (0.283)
090909329	29 (1.142)	7,7 (0.303)
090909330	30 (1.181)	8,2 (0.323)
090909331	31 (1.220)	8,7 (0.343)
090909332	32 (1.260)	9,2 (0.362)
090909333	33 (1.299)	9,7 (0.382)
090909334	34 (1.339)	10,2 (0.402)
090909335	35 (1.378)	10,7 (0.421)
090909336	36 (1.417)	11,2 (0.441)

PUNTA CENTRALE
CENTER POINT



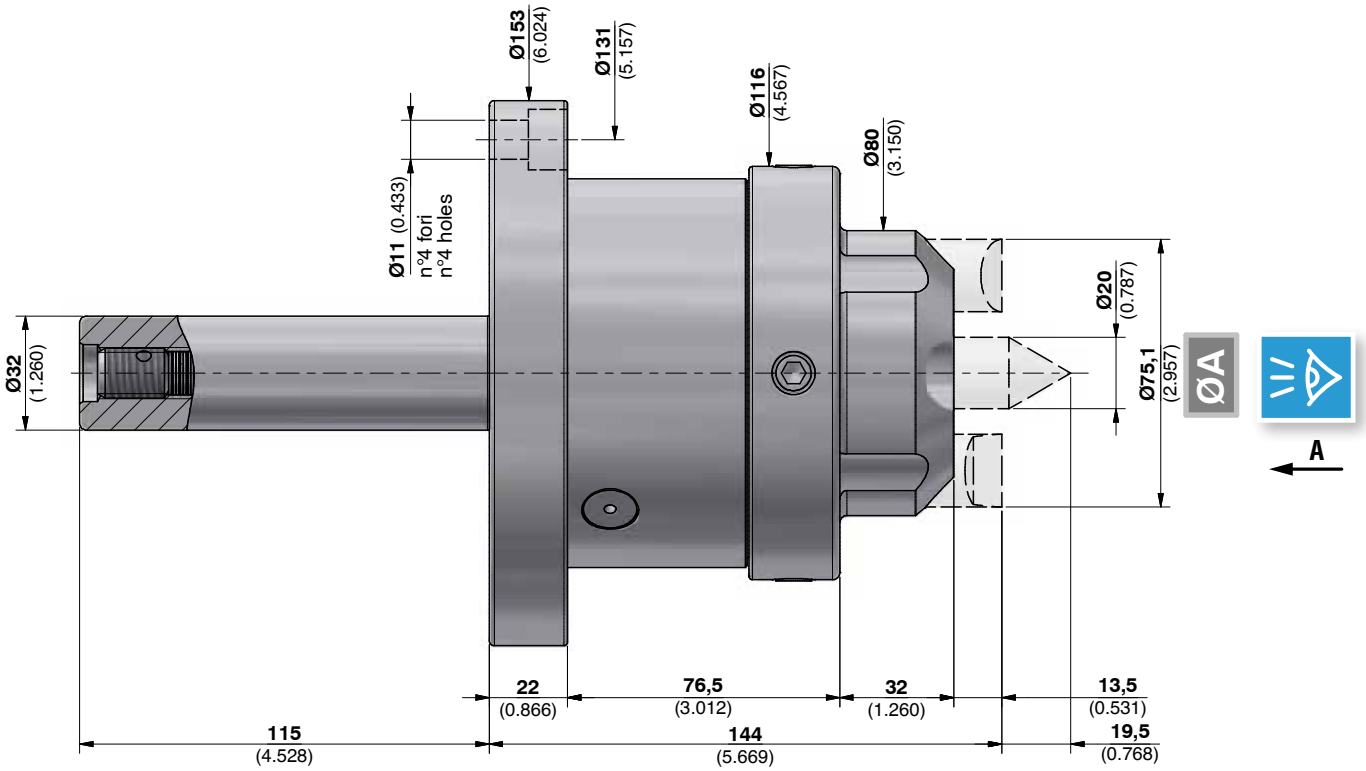
072102756

PUNTE CENTRALI A CAPRUGGINE
CENTER POINTS WITH SLOTS



	Dimensioni *Dimensions*		Per centri o fori *For centers or holes*	
	Ø A	Ø B	dal / *from* Ø	al / *to the* Ø
171712010	8 (0.315)	15 (0.591)	10,5 (0.413)	13,5 (0.531)
171712011	11 (0.433)	18 (0.709)	13,5 (0.531)	16,5 (0.650)
171712012	14 (0.551)	21 (0.827)	16,5 (0.650)	19,5 (0.768)
171712013	17 (0.669)	24 (0.945)	19,5 (0.768)	22,5 (0.886)
171712014	20 (0.787)	27 (1.063)	22,5 (0.886)	25,5 (1.004)
171712015	23 (0.906)	30 (1.181)	25,5 (1.004)	28,5 (1.122)
171712016	26 (1.024)	33 (1.299)	28,5 (1.122)	31,5 (1.240)
171712017	29 (1.142)	36 (1.417)	31,5 (1.240)	34,5 (1.358)

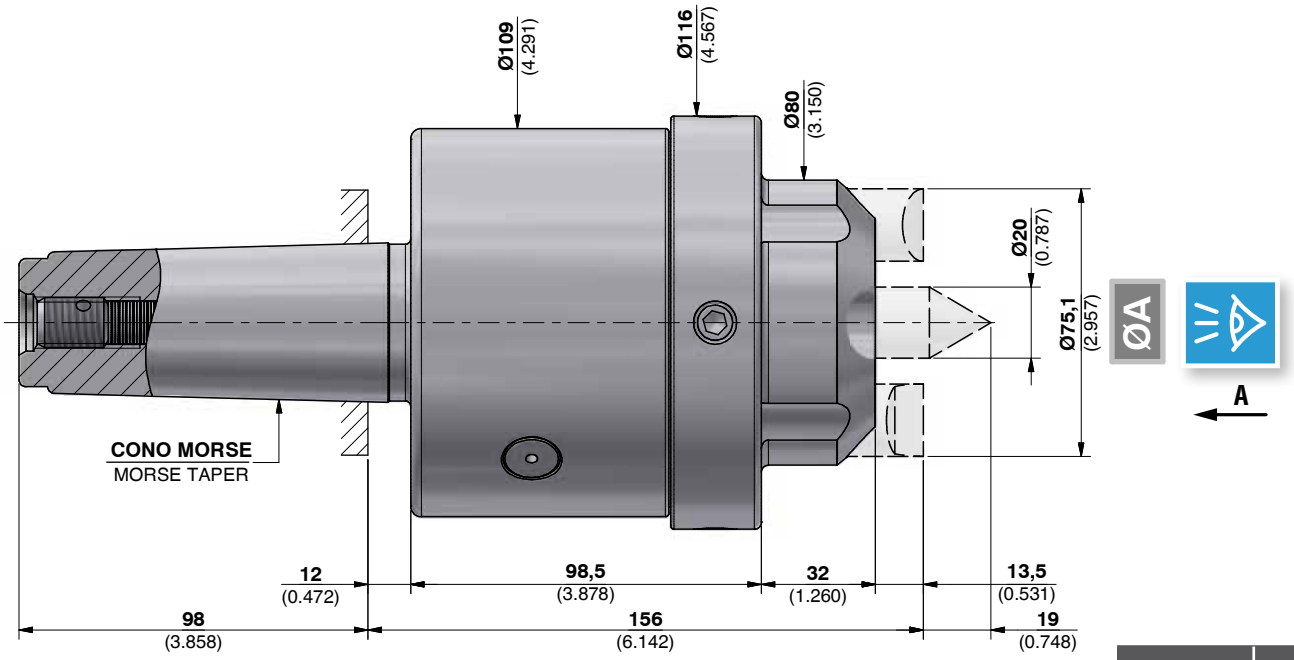
TRASCINATORE FRONTALE 45/120 VERSIONE FLANGIATA
FACE DRIVER 45/120 FLANGED VERSION



ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

070760034A

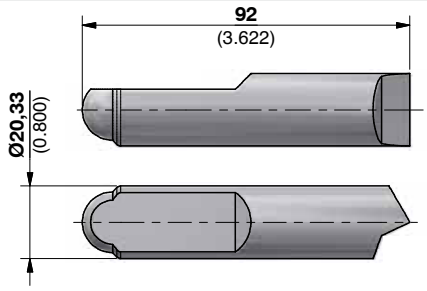
TRASCINATORE FRONTALE 45/120 VERSIONE CONO MORSE
FACE DRIVER 45/120 MORSE TAPER VERSION



ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

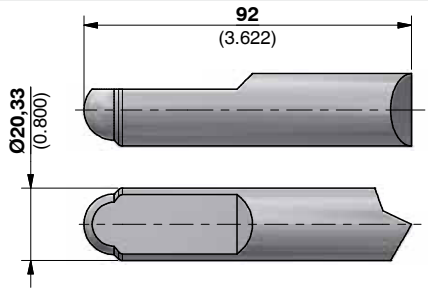
070750756A	CM5 / MT5
070751066A	CM6 / MT6

ARTIGLI
DRIVING PINS



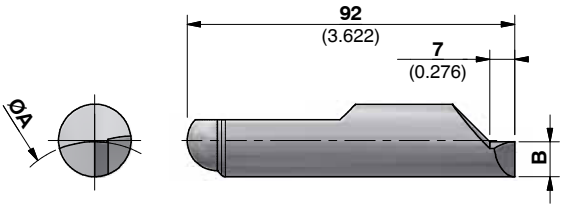
Antiorario
CCW

	Ø A
080845014	75,1 (2.957)



Orario
CW

	Ø A
080845015	75,1 (2.957)



ØA **Diametro di presa degli artigli**
Clamping diameter of the driving pins

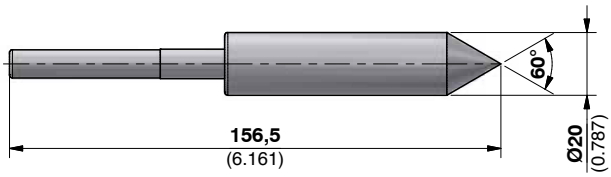
Antiorario
CCW

	Ø A	B
090945246	46 (1.811)	5,8 (0.228)
090945247	47 (1.850)	6,3 (0.248)
090945248	48 (1.890)	6,8 (0.268)
090945249	49 (1.929)	7,3 (0.287)
090945250	50 (1.969)	7,8 (0.307)
090945251	51 (2.008)	8,3 (0.327)
090945252	52 (2.047)	8,8 (0.346)
090945253	53 (2.087)	9,3 (0.366)
090945254	54 (2.126)	9,8 (0.386)
090945255	55 (2.165)	10,3 (0.406)
090945256	56 (2.205)	10,8 (0.425)
090945257	57 (2.244)	11,3 (0.445)
090945258	58 (2.283)	11,8 (0.465)
090945259	59 (2.323)	12,3 (0.484)
090945260	60 (2.362)	12,8 (0.504)
090945261	61 (2.402)	13,3 (0.524)
090945262	62 (2.441)	13,8 (0.543)
090945263	63 (2.480)	14,3 (0.563)
090945264	64 (2.520)	14,8 (0.583)
090945265	65 (2.559)	15,3 (0.602)

Orario
CW

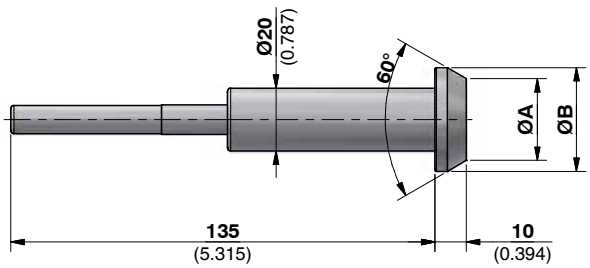
	Ø A	B
090945346	46 (1.811)	5,8 (0.228)
090945347	47 (1.850)	6,3 (0.248)
090945348	48 (1.890)	6,8 (0.268)
090945349	49 (1.929)	7,3 (0.287)
090945350	50 (1.969)	7,8 (0.307)
090945351	51 (2.008)	8,3 (0.327)
090945352	52 (2.047)	8,8 (0.346)
090945353	53 (2.087)	9,3 (0.366)
090945354	54 (2.126)	9,8 (0.386)
090945355	55 (2.165)	10,3 (0.406)
090945356	56 (2.205)	10,8 (0.425)
090945357	57 (2.244)	11,3 (0.445)
090945358	58 (2.283)	11,8 (0.465)
090945359	59 (2.323)	12,3 (0.484)
090945360	60 (2.362)	12,8 (0.504)
090945361	61 (2.402)	13,3 (0.524)
090945362	62 (2.441)	13,8 (0.543)
090945363	63 (2.480)	14,3 (0.563)
090945364	64 (2.520)	14,8 (0.583)
090945365	65 (2.559)	15,3 (0.602)

PUNTA CENTRALE
CENTER POINT



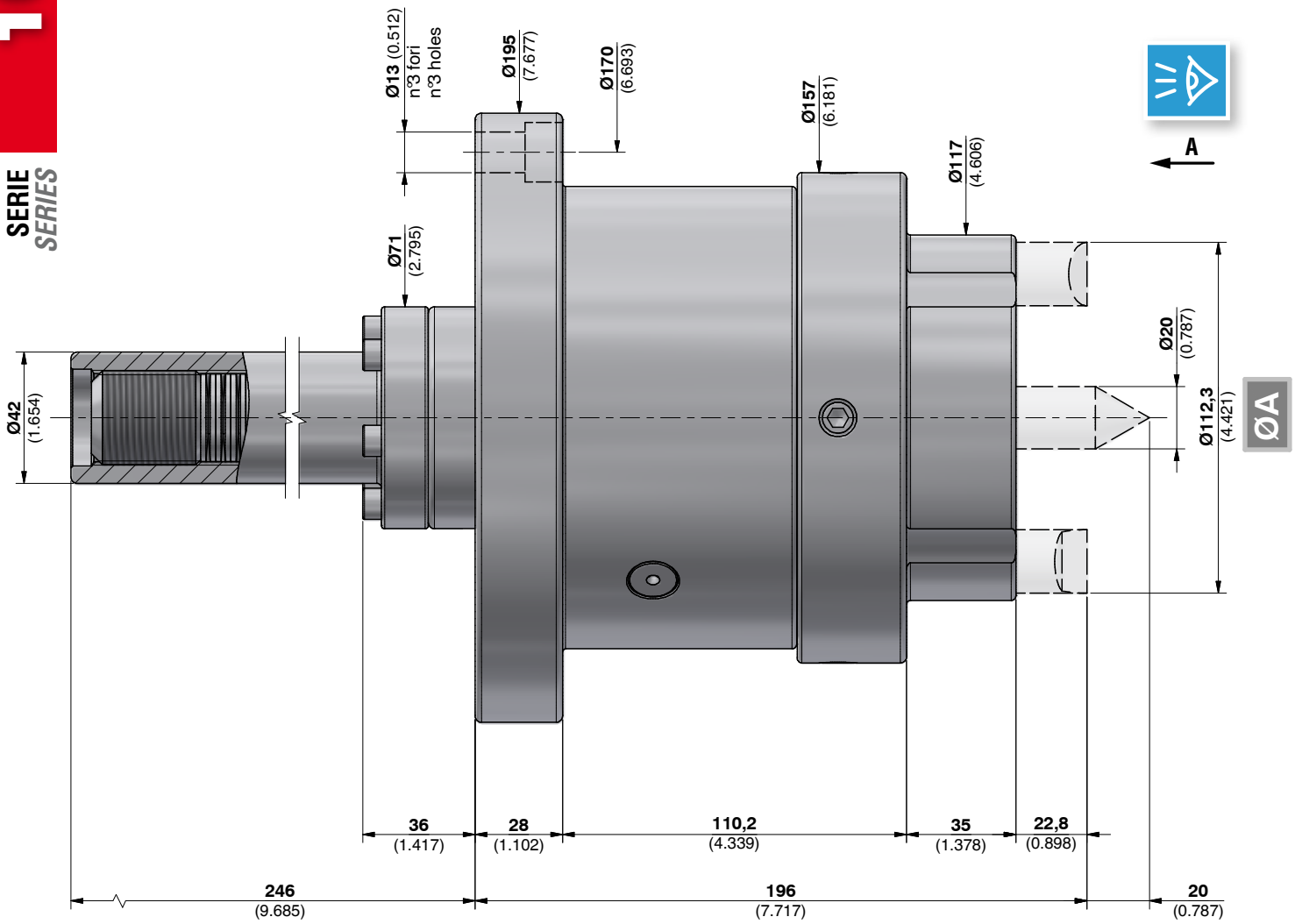
072102758

PUNTE CENTRALI A CAPRUGGINE
CENTER POINTS WITH SLOTS



	Dimensioni *Dimensions*		Per centri o fori *For centers or holes*	
	Ø A	Ø B	dal / *from* Ø	al / *to the* Ø
171713020	14 (0.551)	21 (0.827)	16,5 (0.650)	19,5 (0.768)
171713021	17 (0.669)	24 (0.945)	19,5 (0.768)	22,5 (0.886)
171713022	20 (0.787)	27 (1.063)	22,5 (0.886)	25,5 (1.004)
171713023	23 (0.906)	30 (1.181)	25,5 (1.004)	28,5 (1.122)
171713024	26 (1.024)	33 (1.299)	28,5 (1.122)	31,5 (1.240)
171713025	29 (1.142)	36 (1.417)	31,5 (1.240)	34,5 (1.358)
171713026	32 (1.260)	39 (1.535)	34,5 (1.358)	37,5 (1.476)
171713027	35 (1.378)	42 (1.654)	37,5 (1.476)	40,5 (1.594)
171713028	38 (1.496)	45 (1.772)	40,5 (1.594)	43,5 (1.713)
171713029	41 (1.614)	48 (1.890)	43,5 (1.713)	46,5 (1.831)
171713030	44 (1.732)	51 (2.008)	46,5 (1.831)	49,5 (1.949)

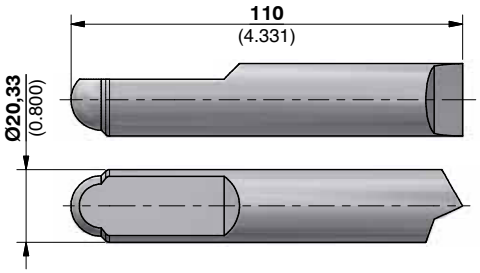
TRASCINATORE FRONTALE 100/220 VERSIONE FLANGIATA
FACE DRIVER 100/220 FLANGED VERSION



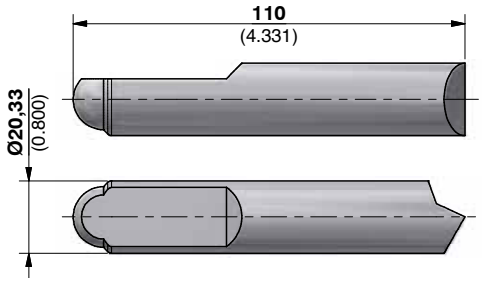
ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

070760017A

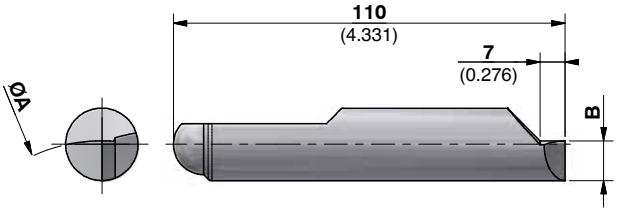
ARTIGLI
DRIVING PINS



Antiorario *CCW*	
	Ø A
080810212	112,3 (4.421)



Orario *CW*	
	Ø A
080810213	112,3 (4.421)

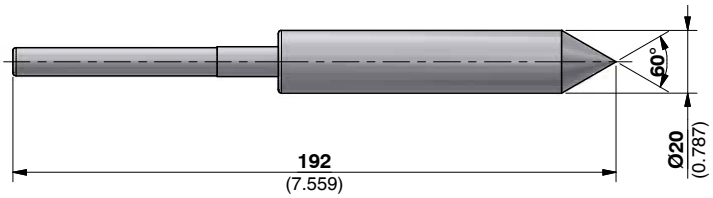


ØA **Diametro di presa degli artigli**
Clamping diameter of the driving pins

Antiorario *CCW*		
	Ø A	B
090900084	84 (3.307)	6,2 (0.244)
090900089	89 (3.504)	8,7 (0.343)
090900094	94 (3.701)	11,2 (0.441)
090900099	99 (3.898)	13,7 (0.539)

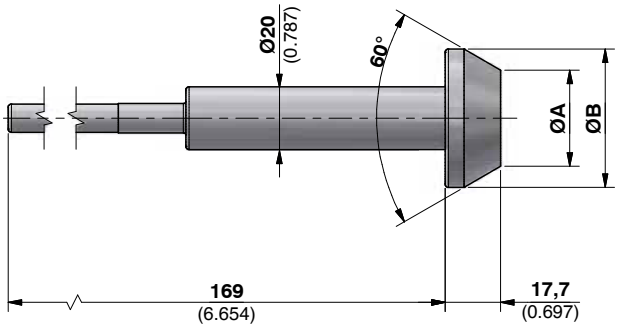
Orario *CW*		
	Ø A	B
090901084	84 (3.307)	6,2 (0.244)
090901089	89 (3.504)	8,7 (0.343)
090901094	94 (3.701)	11,2 (0.441)
090901099	99 (3.898)	13,7 (0.539)

PUNTA CENTRALE
CENTER POINT



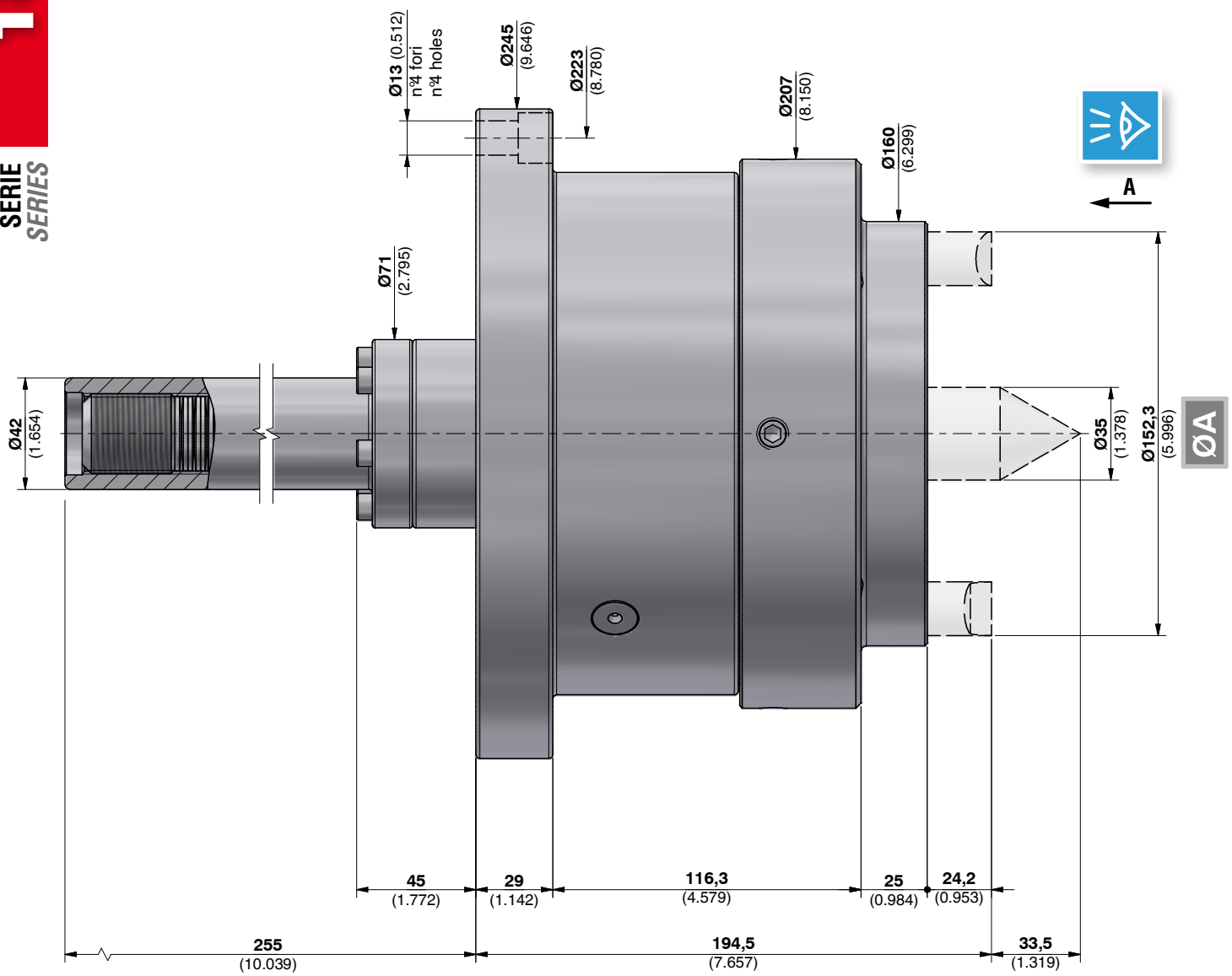
072102739

PUNTE CENTRALI A CAPRUGGINE
CENTER POINTS WITH SLOTS



	Dimensioni *Dimensions*		Per centri o fori *For centers or holes*	
	Ø A	Ø B	dal / *from* Ø	al / *to the* Ø
171714001	12,5 (0.492)	26 (1.024)	19,5 (0.768)	24 (0.945)
171714002	17 (0.669)	30,5 (1.201)	24 (0.945)	28,5 (1.122)
171714003	21,5 (0.846)	35 (1.378)	28,5 (1.122)	33 (1.299)
171714004	26 (1.024)	39,5 (1.555)	33 (1.299)	37,5 (1.476)
171714005	30,5 (1.201)	44 (1.732)	37,5 (1.476)	42 (1.654)
171714006	35 (1.378)	48,5 (1.909)	42 (1.654)	46,5 (1.831)
171714007	39,5 (1.555)	53 (2.087)	46,5 (1.831)	51 (2.008)
171714008	44 (1.732)	57,5 (2.264)	51 (2.008)	55,5 (2.185)
171714009	48,5 (1.909)	62 (2.441)	55,5 (2.185)	60 (2.362)
171714010	53 (2.087)	66,5 (2.618)	60 (2.362)	64,5 (2.539)
171714011	57,5 (2.264)	71 (2.795)	64,5 (2.539)	69 (2.717)
171714012	62 (2.441)	75,5 (2.972)	69 (2.717)	73,5 (2.894)
171714013	66,5 (2.618)	80 (3.150)	73,5 (2.894)	78 (3.071)
171714014	71 (2.795)	84,5 (3.327)	78 (3.071)	82,5 (3.248)
171714015	75,5 (2.972)	89 (3.504)	82,5 (3.248)	87 (3.425)
171714016	80 (3.150)	93,5 (3.681)	87 (3.425)	91,5 (3.602)
171714017	84,5 (3.327)	98 (3.858)	91,5 (3.602)	96 (3.780)
171714018	89 (3.504)	102,5 (4.035)	96 (3.780)	100,5 (3.957)

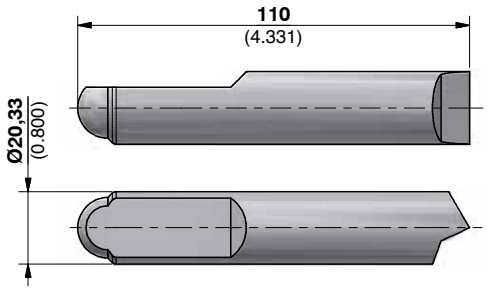
TRASCINATORE FRONTALE 180/300 VERSIONE FLANGIATA
FACE DRIVER 180/300 FLANGED VERSION

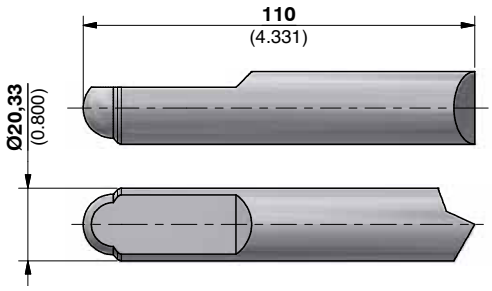


ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

070760038A

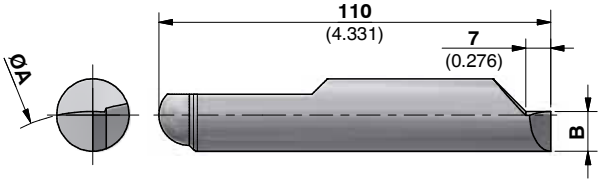
ARTIGLI
DRIVING PINS





Antiorario CCW	Ø A
080810212	152,3 (5.996)

Orario CW	Ø A
080810213	152,3 (5.996)

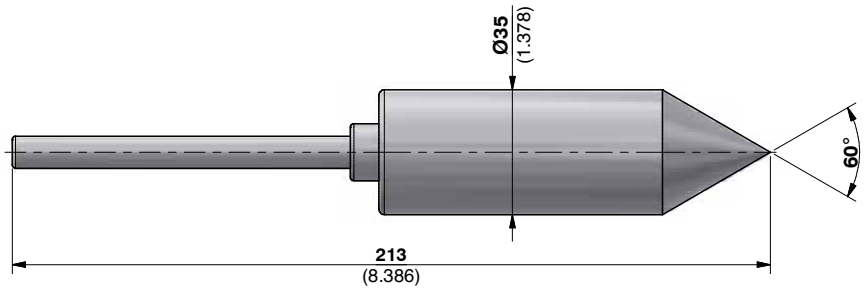


ØA **Diametro di presa degli artigli**
Clamping diameter of the driving pins

Antiorario CCW	Ø A	B
090900084	124 (4.882)	6,2 (0.244)
090900089	129 (5.079)	8,7 (0.343)
090900094	134 (5.276)	11,2 (0.441)
090900099	139 (5.472)	13,7 (0.539)

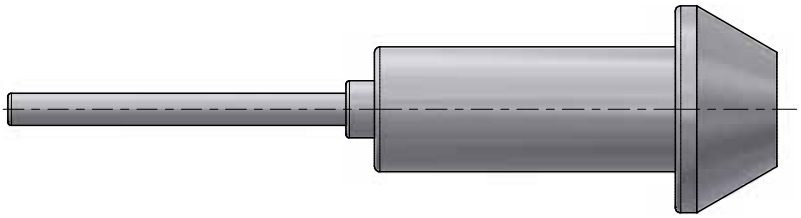
Orario CW	Ø A	B
090901084	124 (4.882)	6,2 (0.244)
090901089	129 (5.079)	8,7 (0.343)
090901094	134 (5.276)	11,2 (0.441)
090901099	139 (5.472)	13,7 (0.539)

PUNTA CENTRALE
CENTER POINT



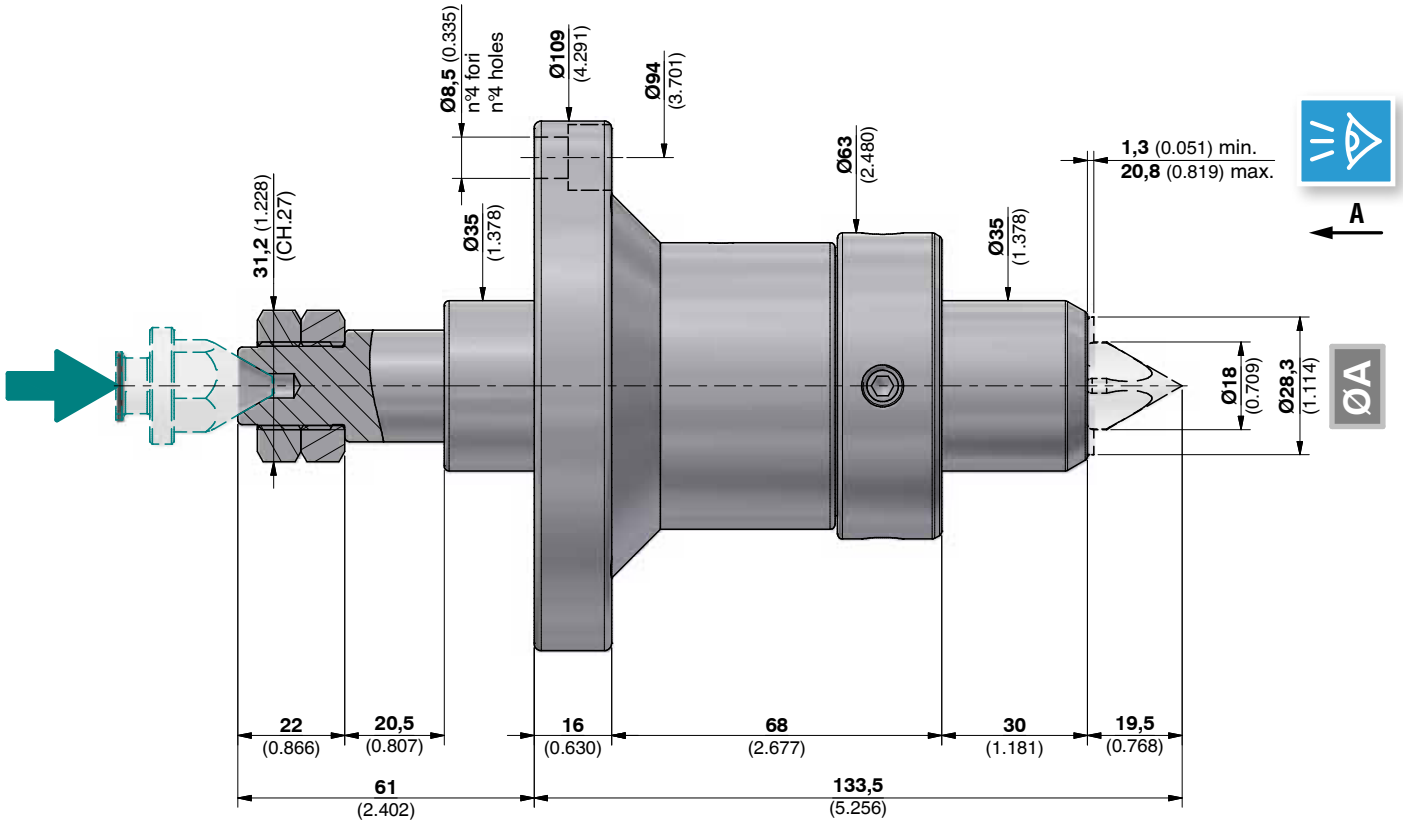
072102761

PUNTE CENTRALI A CAPRUGGINE
CENTER POINTS WITH SLOTS



Disponibile su richiesta
Available on request

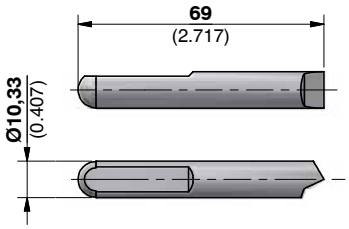
TRASCINATORE FRONTALE 12/50 VERSIONE FLANGIATA
FACE DRIVER 12/50 FLANGED VERSION



ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

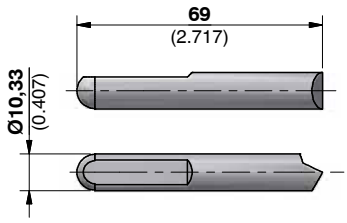
070760040A

ARTIGLI
DRIVING PINS



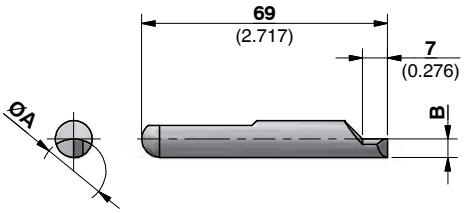
Antiorario *CCW*

	Ø A
080809002	28,3 (1.114)



Orario *CW*

	Ø A
080809003	28,3 (1.114)

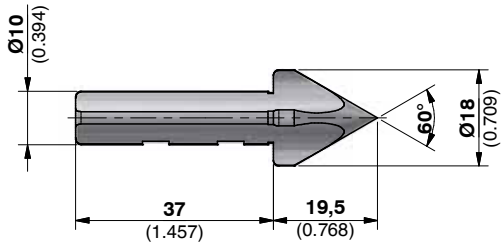


ØA **Diametro di presa degli artigli**
Clamping diameter of the driving pins

Antiorario *CCW*		
	Ø A	B
090909014	14 (0.551)	3,1 (0.122)
090909015	15 (0.591)	3,6 (0.142)
090909016	16 (0.630)	4,1 (0.161)
090909017	17 (0.669)	4,6 (0.181)
090909018	18 (0.709)	5,1 (0.201)
090909019	19 (0.748)	5,6 (0.220)
090909020	20 (0.787)	6,1 (0.240)
090909021	21 (0.827)	6,6 (0.260)
090909022	22 (0.866)	7,1 (0.280)
090909023	23 (0.906)	7,6 (0.299)
090909024	24 (0.945)	8,1 (0.319)
090909025	25 (0.984)	8,6 (0.339)

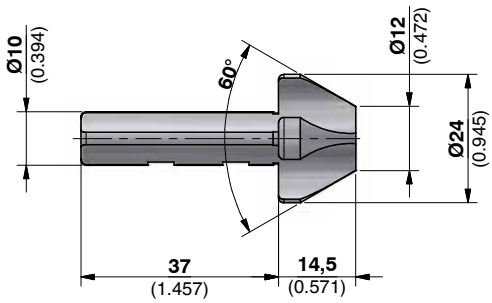
Orario *CW*		
	Ø A	B
090909114	14 (0.551)	3,1 (0.122)
090909115	15 (0.591)	3,6 (0.142)
090909116	16 (0.630)	4,1 (0.161)
090909117	17 (0.669)	4,6 (0.181)
090909118	18 (0.709)	5,1 (0.201)
090909119	19 (0.748)	5,6 (0.220)
090909120	20 (0.787)	6,1 (0.240)
090909121	21 (0.827)	6,6 (0.260)
090909122	22 (0.866)	7,1 (0.280)
090909123	23 (0.906)	7,6 (0.299)
090909124	24 (0.945)	8,1 (0.319)
090909125	25 (0.984)	8,6 (0.339)

PUNTA CENTRALE
CENTER POINT



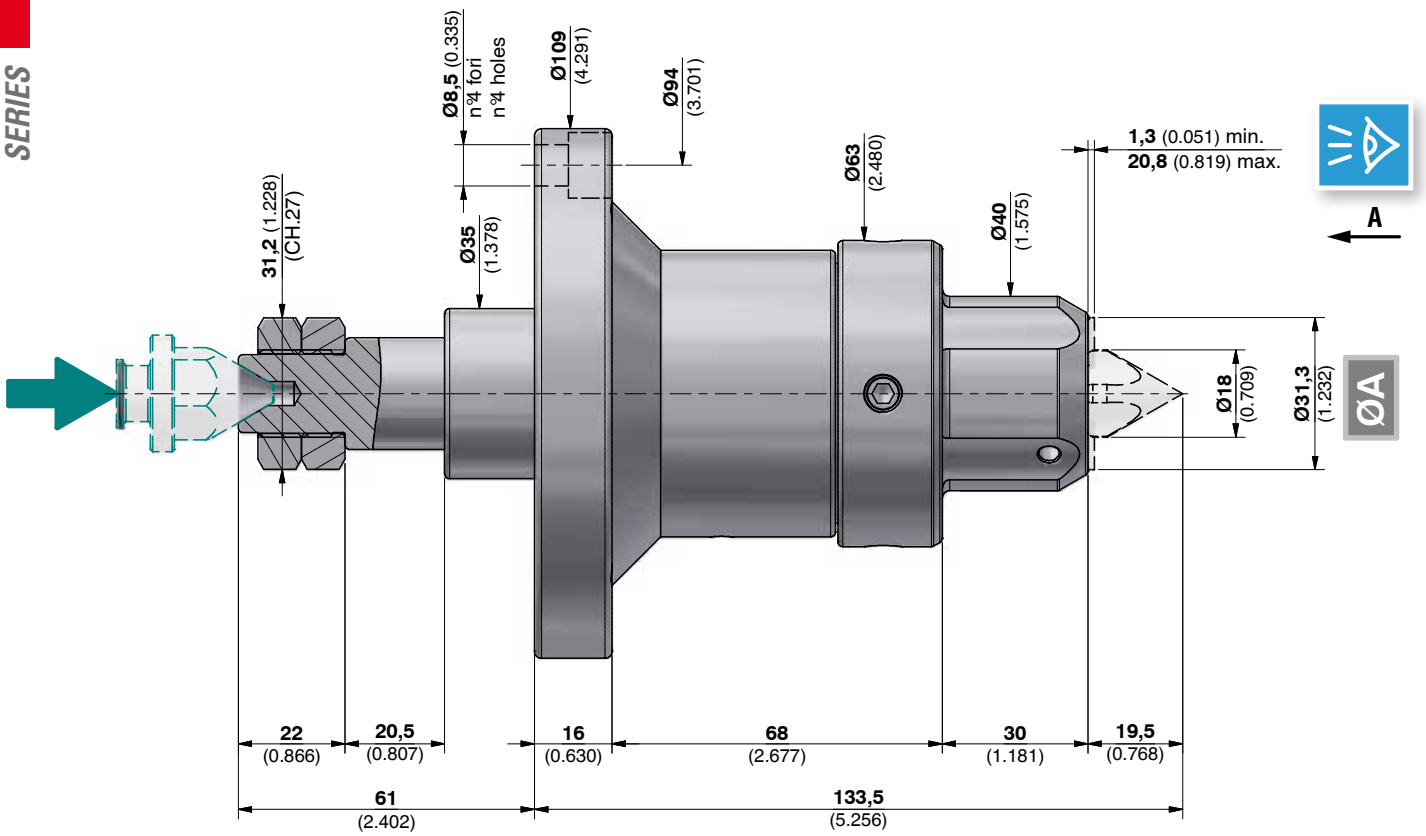
072102768

PUNTE CENTRALI A CAPRUGGINE
CENTER POINTS WITH SLOTS



	per centri o fori / *for centers or holes*	
	dal / *from* Ø	al / *to the* Ø
179200101	15 (0.591)	22 (0.866)

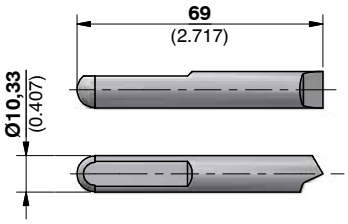
TRASCINATORE FRONTALE 15/55 VERSIONE FLANGIATA
FACE DRIVER 15/55 FLANGED VERSION



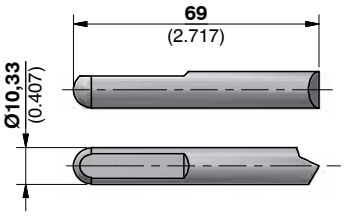
ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

070752410A

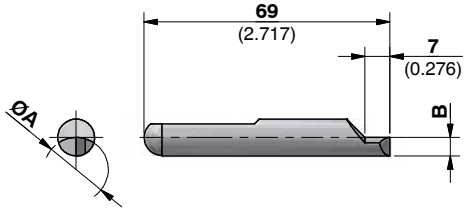
ARTIGLI
DRIVING PINS



Antiorario CCW	Ø A
080809002	31,3 (1.232)



Orario CW	Ø A
080809003	31,3 (1.232)

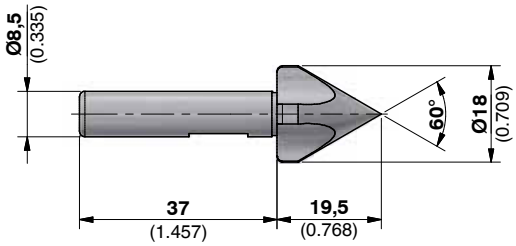


ØA **Diametro di presa degli artigli**
Clamping diameter of the driving pins

Antiorario CCW	Ø A	B
090909014	17 (0.669)	3,1 (0.122)
090909015	18 (0.709)	3,6 (0.142)
090909016	19 (0.748)	4,1 (0.161)
090909017	20 (0.787)	4,6 (0.181)
090909018	21 (0.827)	5,1 (0.201)
090909019	22 (0.866)	5,6 (0.220)
090909020	23 (0.906)	6,1 (0.240)
090909021	24 (0.945)	6,6 (0.260)
090909022	25 (0.984)	7,1 (0.280)
090909023	26 (1.024)	7,6 (0.299)
090909024	27 (1.063)	8,1 (0.319)
090909025	28 (1.102)	8,6 (0.339)

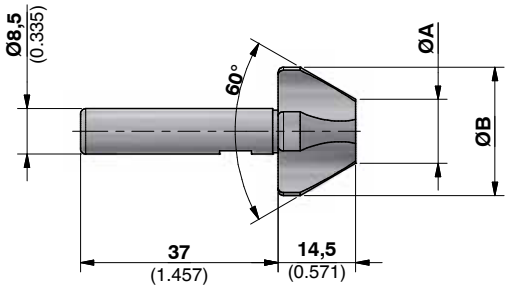
Orario CW	Ø A	B
090909114	17 (0.669)	3,1 (0.122)
090909115	18 (0.709)	3,6 (0.142)
090909116	19 (0.748)	4,1 (0.161)
090909117	20 (0.787)	4,6 (0.181)
090909118	21 (0.827)	5,1 (0.201)
090909119	22 (0.866)	5,6 (0.220)
090909120	23 (0.906)	6,1 (0.240)
090909121	24 (0.945)	6,6 (0.260)
090909122	25 (0.984)	7,1 (0.280)
090909123	26 (1.024)	7,6 (0.299)
090909124	27 (1.063)	8,1 (0.319)
090909125	28 (1.102)	8,6 (0.339)

PUNTA CENTRALE
CENTER POINT



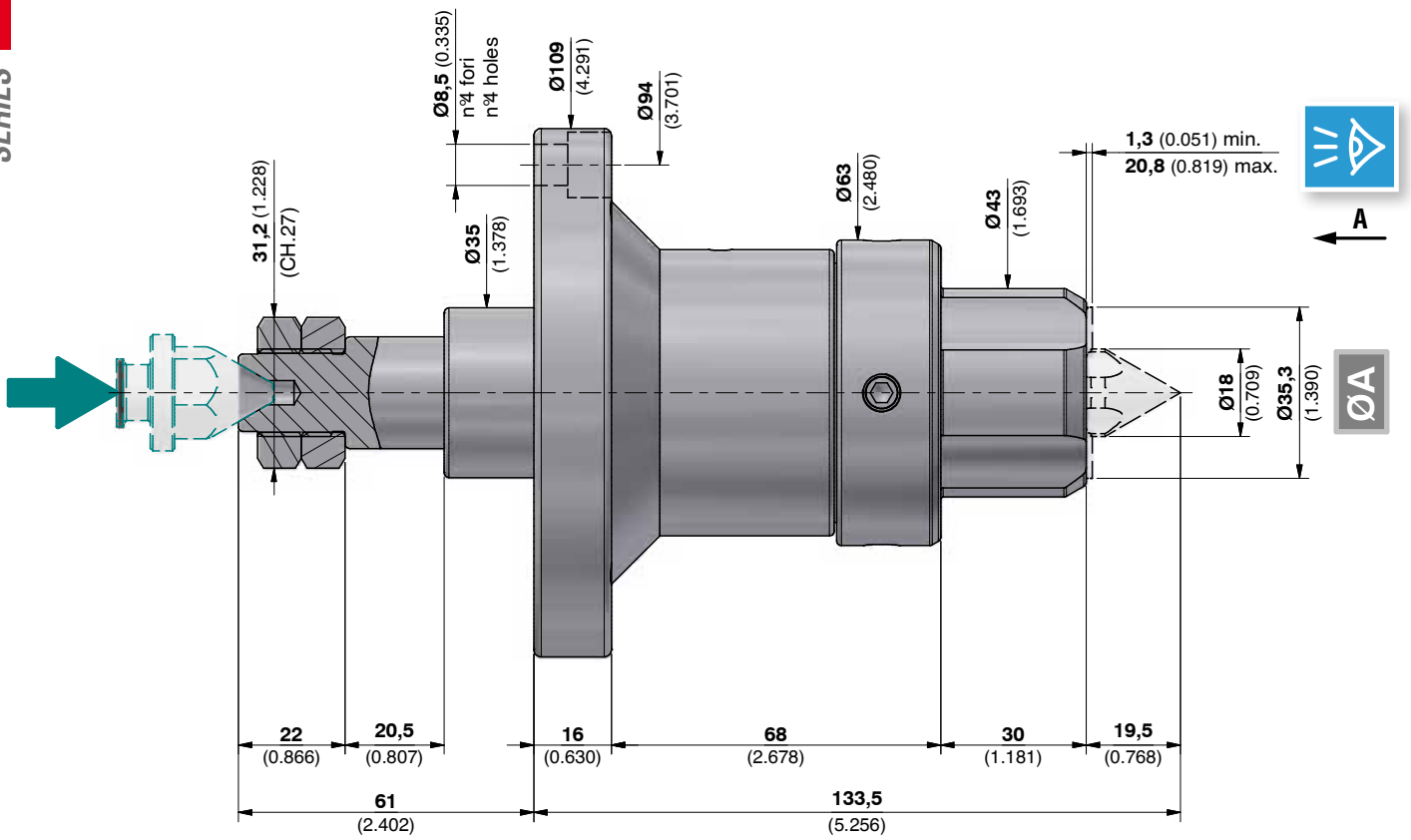
072102769

PUNTE CENTRALI A CAPRUGGINE
CENTER POINTS WITH SLOTS



	Dimensioni *Dimensions*		Per centri o fori *For centers or holes*	
	Ø A	Ø B	dal / *from* Ø	al / *to the* Ø
171711018	12 (0.472)	24 (0.945)	15 (0.591)	23 (0.906)
171711021	18 (0.709)	30 (1.181)	21 (0.827)	26 (1.024)

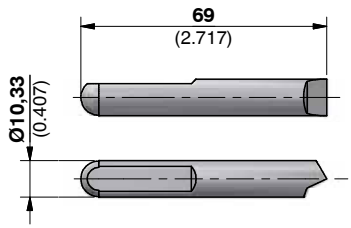
TRASCINATORE FRONTALE 20/60 VERSIONE FLANGIATA
FACE DRIVER 20/60 FLANGED VERSION



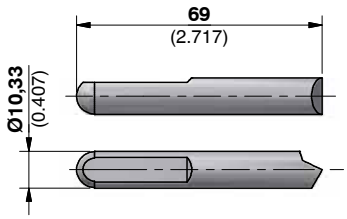
ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

070752412A

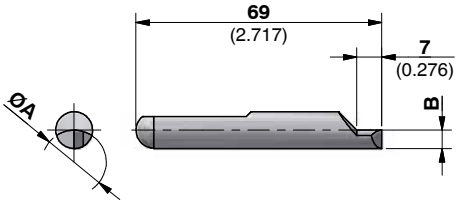
ARTIGLI
DRIVING PINS



Antiorario CCW	Ø A
080809002	35,3 (1.390)



Orario CW	Ø A
080809003	35,3 (1.390)

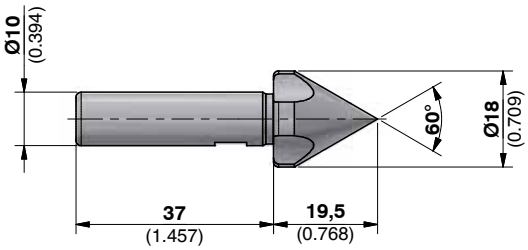


ØA **Diametro di presa degli artigli**
Clamping diameter of the driving pins

Antiorario CCW	Ø A	B
090909014	21 (0.827)	3,1 (0.122)
090909015	22 (0.866)	3,6 (0.142)
090909016	23 (0.906)	4,1 (0.161)
090909017	24 (0.945)	4,6 (0.181)
090909018	25 (0.984)	5,1 (0.201)
090909019	26 (1.024)	5,6 (0.220)
090909020	27 (1.063)	6,1 (0.240)
090909021	28 (1.102)	6,6 (0.260)
090909022	29 (1.142)	7,1 (0.280)
090909023	30 (1.181)	7,6 (0.299)
090909024	31 (1.220)	8,1 (0.319)
090909025	32 (1.260)	8,6 (0.339)

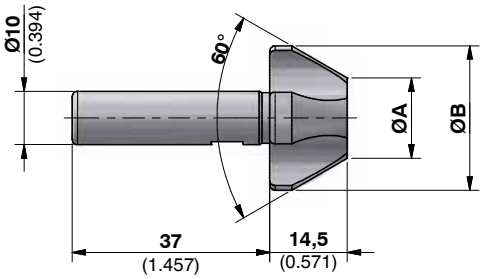
Orario CW	Ø A	B
090909114	21 (0.827)	3,1 (0.122)
090909115	22 (0.866)	3,6 (0.142)
090909116	23 (0.906)	4,1 (0.161)
090909117	24 (0.945)	4,6 (0.181)
090909118	25 (0.984)	5,1 (0.201)
090909119	26 (1.024)	5,6 (0.220)
090909120	27 (1.063)	6,1 (0.240)
090909121	28 (1.102)	6,6 (0.260)
090909122	29 (1.142)	7,1 (0.280)
090909123	30 (1.181)	7,6 (0.299)
090909124	31 (1.220)	8,1 (0.319)
090909125	32 (1.260)	8,6 (0.339)

PUNTA CENTRALE
CENTER POINT



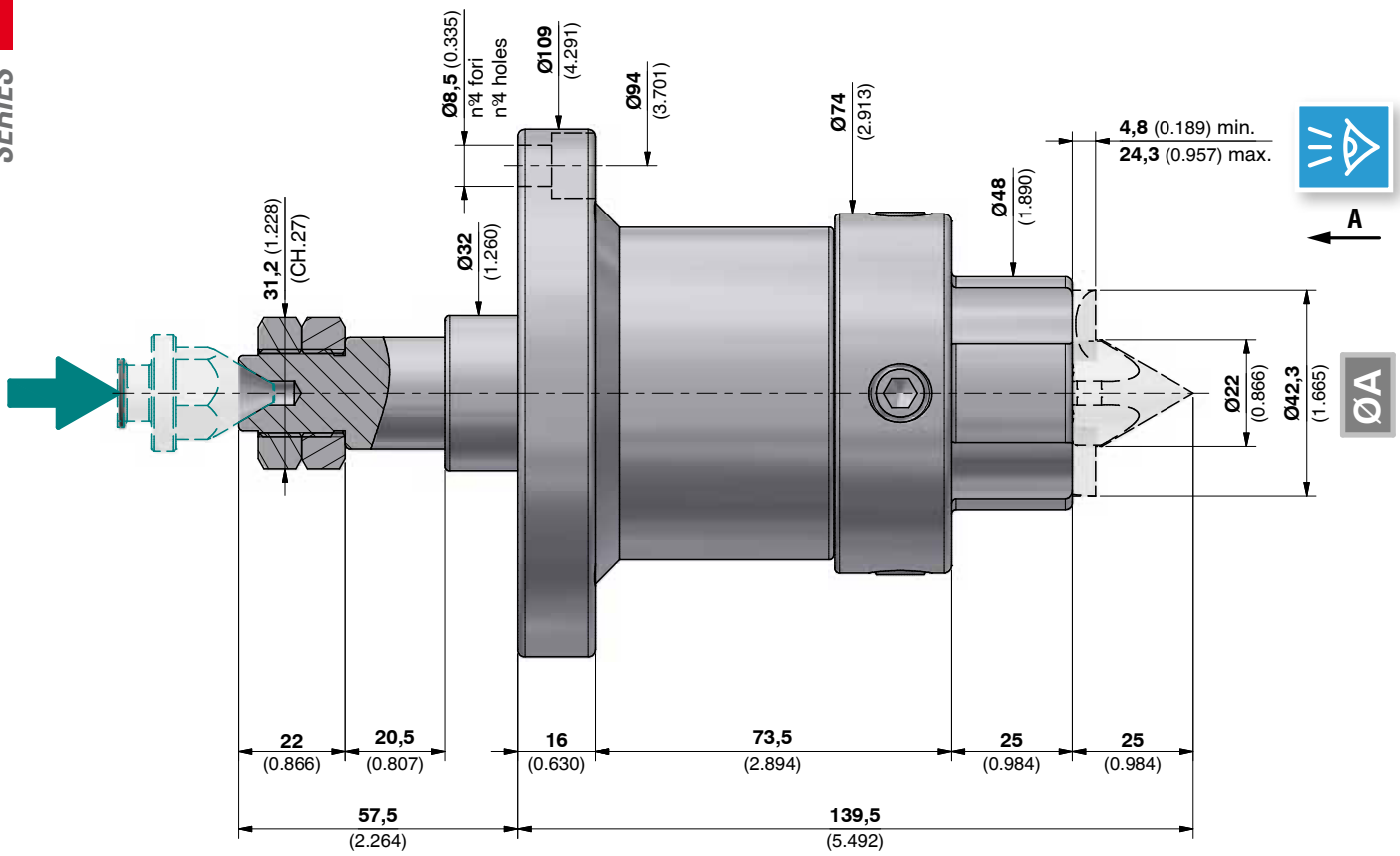
072102770

PUNTE CENTRALI A CAPRUGGINE
CENTER POINTS WITH SLOTS



	Dimensioni *Dimensions*		Per centri o fori *For centers or holes*	
	Ø A	Ø B	dal / *from* Ø	al / *to the* Ø
171712021	12 (0.472)	24 (0.945)	15 (0.591)	23 (0.906)
171712023	15 (0.591)	27 (1.063)	18 (0.709)	26 (1.024)
171712025	18 (0.709)	30 (1.181)	21 (0.827)	29 (1.142)
171712028	24 (0.945)	36 (1.417)	26 (1.024)	31 (1.220)

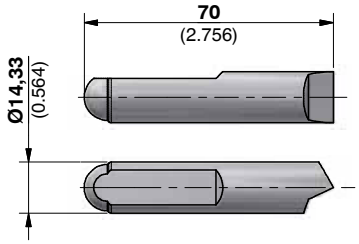
TRASCINATORE FRONTALE 20/70 VERSIONE FLANGIATA
FACE DRIVER 20/70 FLANGED VERSION



ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

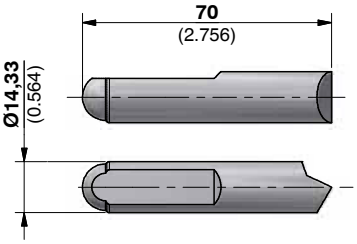
070760042A

ARTIGLI
DRIVING PINS



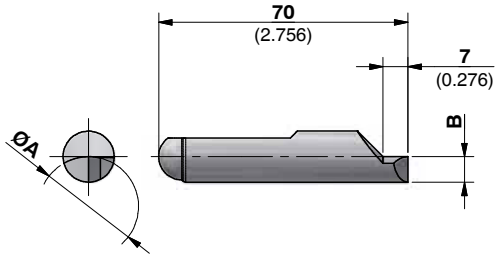
Antiorario
CCW

	Ø A
080809004	42,3 (1.665)



Orario
CW

	Ø A
080809005	42,3 (1.665)



ØA **Diametro di presa degli artigli**
Clamping diameter of the driving pins

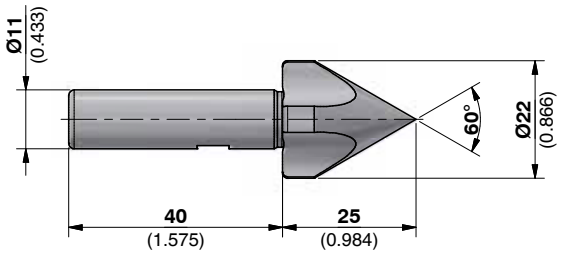
Antiorario
CCW

	Ø A	B
090909221	21 (0.827)	3,7 (0.146)
090909222	22 (0.866)	4,2 (0.165)
090909223	23 (0.906)	4,7 (0.185)
090909224	24 (0.945)	5,2 (0.205)
090909225	25 (0.984)	5,7 (0.224)
090909226	26 (1.024)	6,2 (0.244)
090909227	27 (1.063)	6,7 (0.264)
090909228	28 (1.102)	7,2 (0.283)
090909229	29 (1.142)	7,7 (0.303)
090909230	30 (1.181)	8,2 (0.323)
090909231	31 (1.220)	8,7 (0.343)
090909232	32 (1.260)	9,2 (0.362)
090909233	33 (1.299)	9,7 (0.382)
090909234	34 (1.339)	10,2 (0.402)
090909235	35 (1.378)	10,7 (0.421)
090909236	36 (1.417)	11,2 (0.441)

Orario
CW

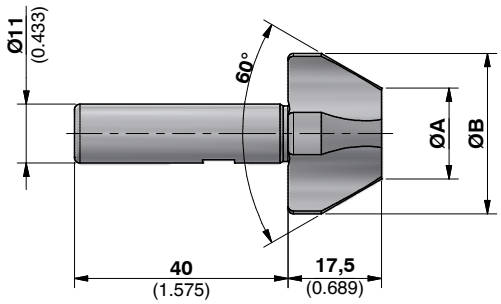
	Ø A	B
090909321	21 (0.827)	3,7 (0.146)
090909322	22 (0.866)	4,2 (0.165)
090909323	23 (0.906)	4,7 (0.185)
090909324	24 (0.945)	5,2 (0.205)
090909325	25 (0.984)	5,7 (0.224)
090909326	26 (1.024)	6,2 (0.244)
090909327	27 (1.063)	6,7 (0.264)
090909328	28 (1.102)	7,2 (0.283)
090909329	29 (1.142)	7,7 (0.303)
090909330	30 (1.181)	8,2 (0.323)
090909331	31 (1.220)	8,7 (0.343)
090909332	32 (1.260)	9,2 (0.362)
090909333	33 (1.299)	9,7 (0.382)
090909334	34 (1.339)	10,2 (0.402)
090909335	35 (1.378)	10,7 (0.421)
090909336	36 (1.417)	11,2 (0.441)

PUNTA CENTRALE
CENTER POINT



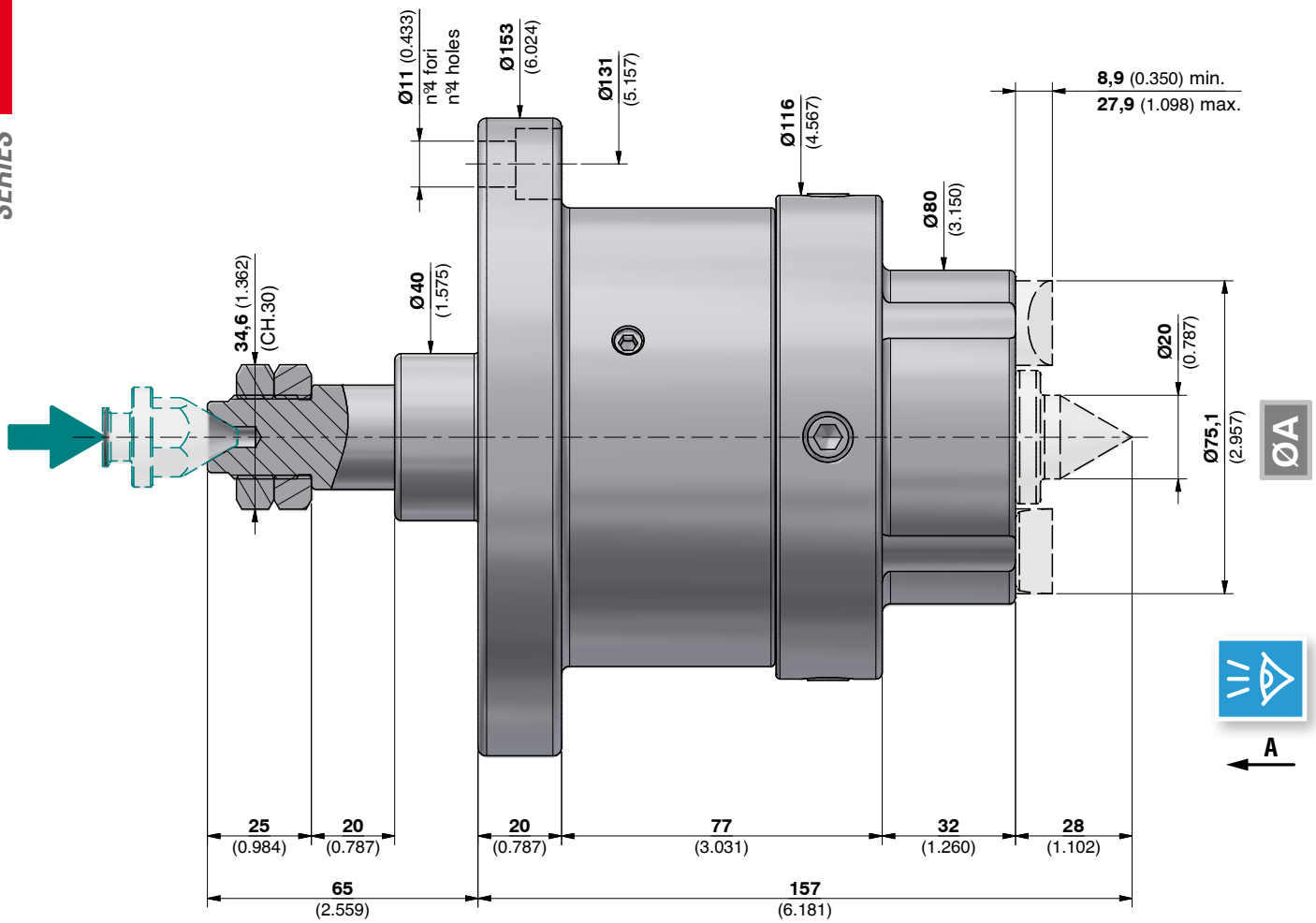
072102771

PUNTE CENTRALI A CAPRUGGINE
CENTER POINTS WITH SLOTS



	Dimensioni *Dimensions*		Per centri o fori *For centers or holes*	
	Ø A	Ø B	dal / *from* Ø	al / *to the* Ø
179200114	17 (0.669)	30 (1.181)	19 (0.748)	29 (1.142)
179200116	23 (0.906)	36 (1.417)	25 (0.984)	35 (1.378)

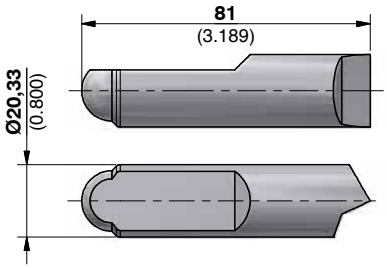
TRASCINATORE FRONTALE 45/120 VERSIONE FLANGIATA
FACE DRIVER 45/120 FLANGED VERSION



ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

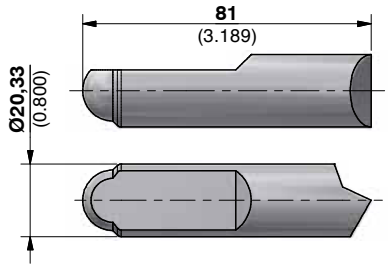
070760044A

ARTIGLI
DRIVING PINS



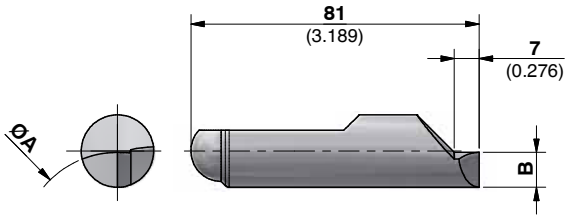
Antiorario *CCW*

	Ø A
080845017	75,1 (2.957)



Orario *CW*

	Ø A
080845016	75,1 (2.957)

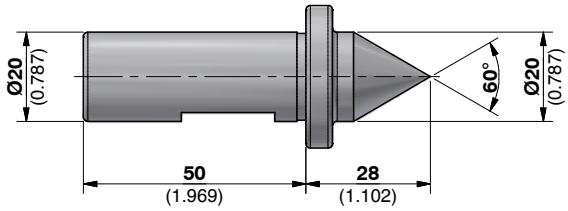


ØA **Diametro di presa degli artigli**
Clamping diameter of the driving pins

Antiorario *CCW*		
	Ø A	B
090945444	44 (1.732)	4.8 (0.189)
090945445	45 (1.772)	5.3 (0.209)
090945446	46 (1.811)	5,8 (0.228)
090945447	47 (1.850)	6,3 (0.248)
090945448	48 (1.890)	6,8 (0.268)
090945449	49 (1.929)	7,3 (0.287)
090945450	50 (1.969)	7,8 (0.307)
090945451	51 (2.008)	8,3 (0.327)
090945452	52 (2.047)	8,8 (0.346)
090945453	53 (2.087)	9,3 (0.366)
090945454	54 (2.126)	9,8 (0.386)
090945455	55 (2.165)	10,3 (0.406)
090945456	56 (2.205)	10,8 (0.425)
090945457	57 (2.244)	11,3 (0.445)
090945458	58 (2.283)	11,8 (0.465)
090945459	59 (2.323)	12,3 (0.484)
090945460	60 (2.362)	12,8 (0.504)
090945461	61 (2.402)	13,3 (0.524)
090945462	62 (2.441)	13,8 (0.543)
090945463	63 (2.480)	14,3 (0.563)
090945464	64 (2.520)	14,8 (0.583)
090945465	65 (2.559)	15,3 (0.602)

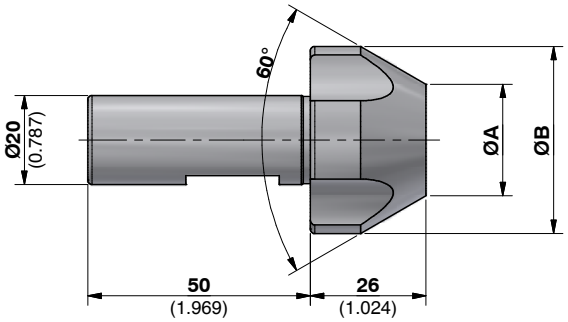
Orario *CW*		
	Ø A	B
090945544	44 (1.732)	4.8 (0.189)
090945545	45 (1.772)	5.3 (0.209)
090945546	46 (1.811)	5,8 (0.228)
090945547	47 (1.850)	6,3 (0.248)
090945548	48 (1.890)	6,8 (0.268)
090945549	49 (1.929)	7,3 (0.287)
090945550	50 (1.969)	7,8 (0.307)
090945551	51 (2.008)	8,3 (0.327)
090945552	52 (2.047)	8,8 (0.346)
090945553	53 (2.087)	9,3 (0.366)
090945554	54 (2.126)	9,8 (0.386)
090945555	55 (2.165)	10,3 (0.406)
090945556	56 (2.205)	10,8 (0.425)
090945557	57 (2.244)	11,3 (0.445)
090945558	58 (2.283)	11,8 (0.465)
090945559	59 (2.323)	12,3 (0.484)
090945560	60 (2.362)	12,8 (0.504)
090945561	61 (2.402)	13,3 (0.524)
090945562	62 (2.441)	13,8 (0.543)
090945563	63 (2.480)	14,3 (0.563)
090945564	64 (2.520)	14,8 (0.583)
090945565	65 (2.559)	15,3 (0.602)

PUNTA CENTRALE
CENTER POINT



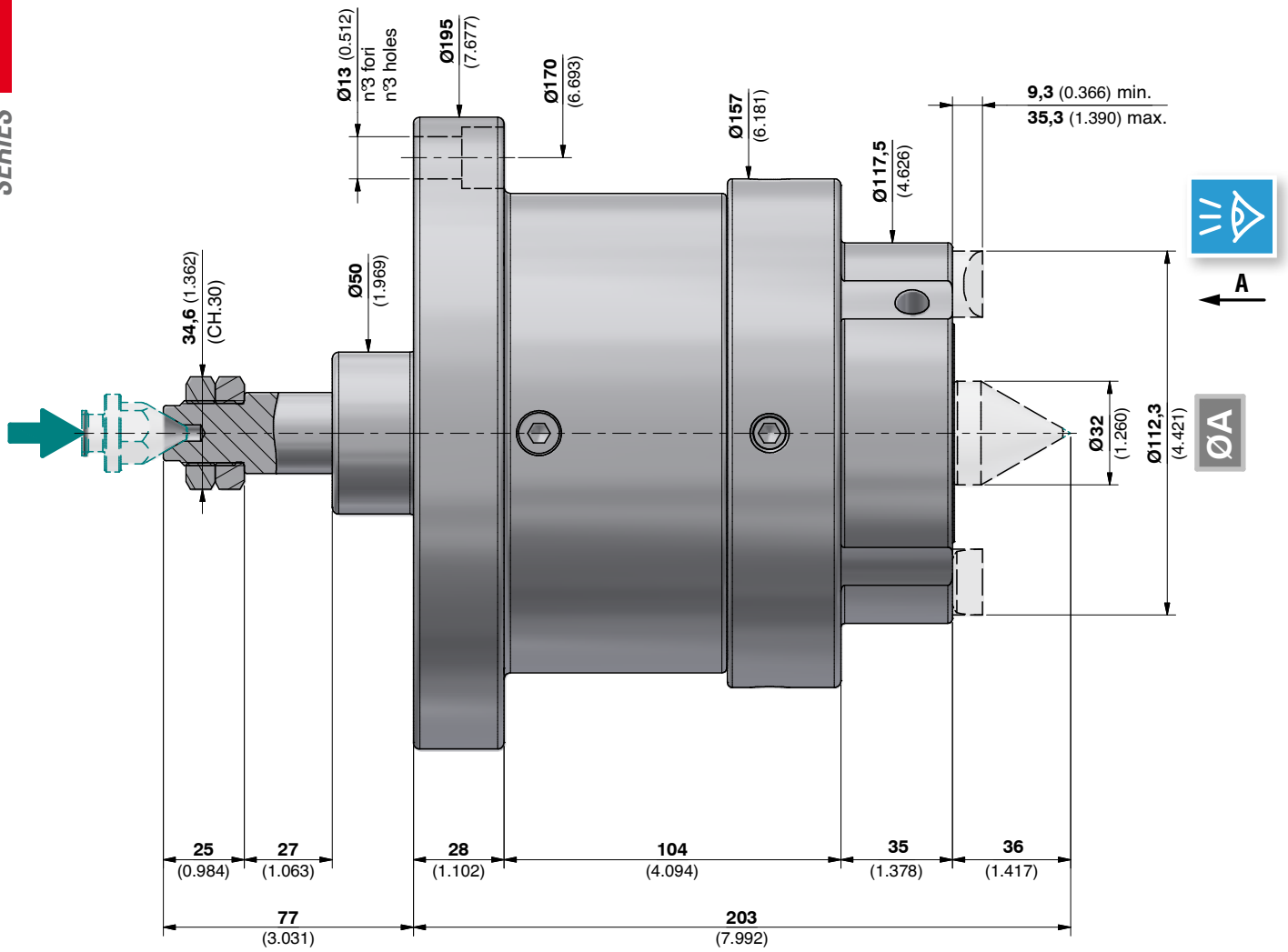
072920104

PUNTE CENTRALI A CAPRUGGINE
CENTER POINTS WITH SLOTS



	Dimensioni *Dimensions*		Per centri o fori *For centers or holes*	
	Ø A	Ø B	dal / *from* Ø	al / *to the* Ø
171713031	15 (0.591)	32 (1.260)	18 (0.709)	31 (1.220)
171713032	25 (0.984)	42 (1.654)	28 (1.102)	41 (1.614)
171713033	35 (1.378)	52 (2.047)	38 (1.496)	51 (2.008)
171713034	45 (1.772)	62 (2.441)	48 (1.890)	61 (2.402)
171713035	55 (2.165)	72 (2.835)	58 (2.283)	71 (2.795)

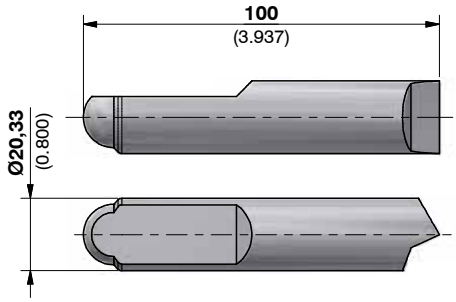
TRASCINATORE FRONTALE 100/220 VERSIONE FLANGIATA
FACE DRIVER 100/220 FLANGED VERSION



ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

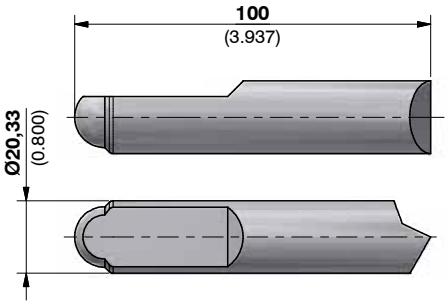
070760046A

ARTIGLI
DRIVING PINS



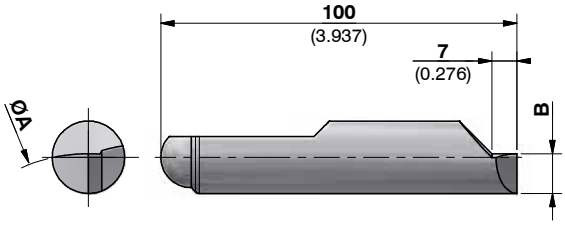
Antiorario
CCW

	Ø A
080810215	112,3 (4.421)



Orario
CW

	Ø A
080810214	112,3 (4.421)



ØA **Diametro di presa degli artigli**
Clamping diameter of the driving pins

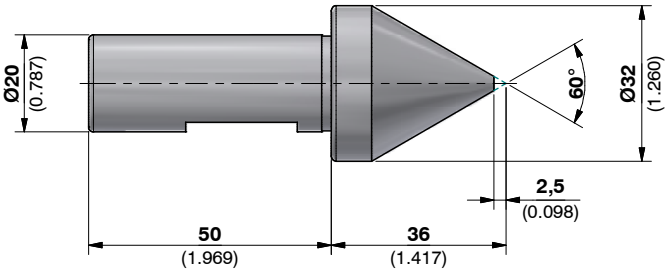
Antiorario
CCW

	Ø A	B
090909084	84 (3.307)	6,3 (0.248)
090909089	89 (3.504)	8,8 (0.346)
090909094	94 (3.701)	11,3 (0.445)
090909099	99 (3.898)	13,8 (0.543)

Orario
CW

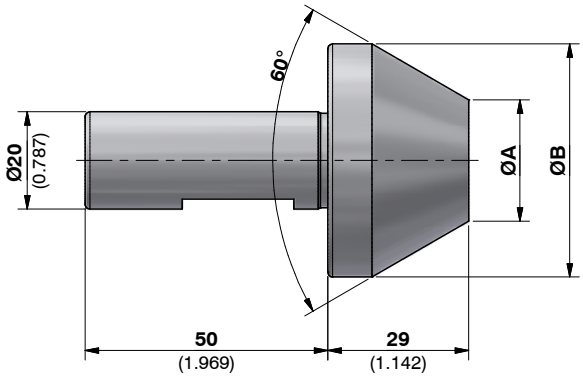
	Ø A	B
090909184	84 (3.307)	6,3 (0.248)
090909189	89 (3.504)	8,8 (0.346)
090909194	94 (3.701)	11,3 (0.445)
090909199	99 (3.898)	13,8 (0.543)

PUNTA CENTRALE
CENTER POINT



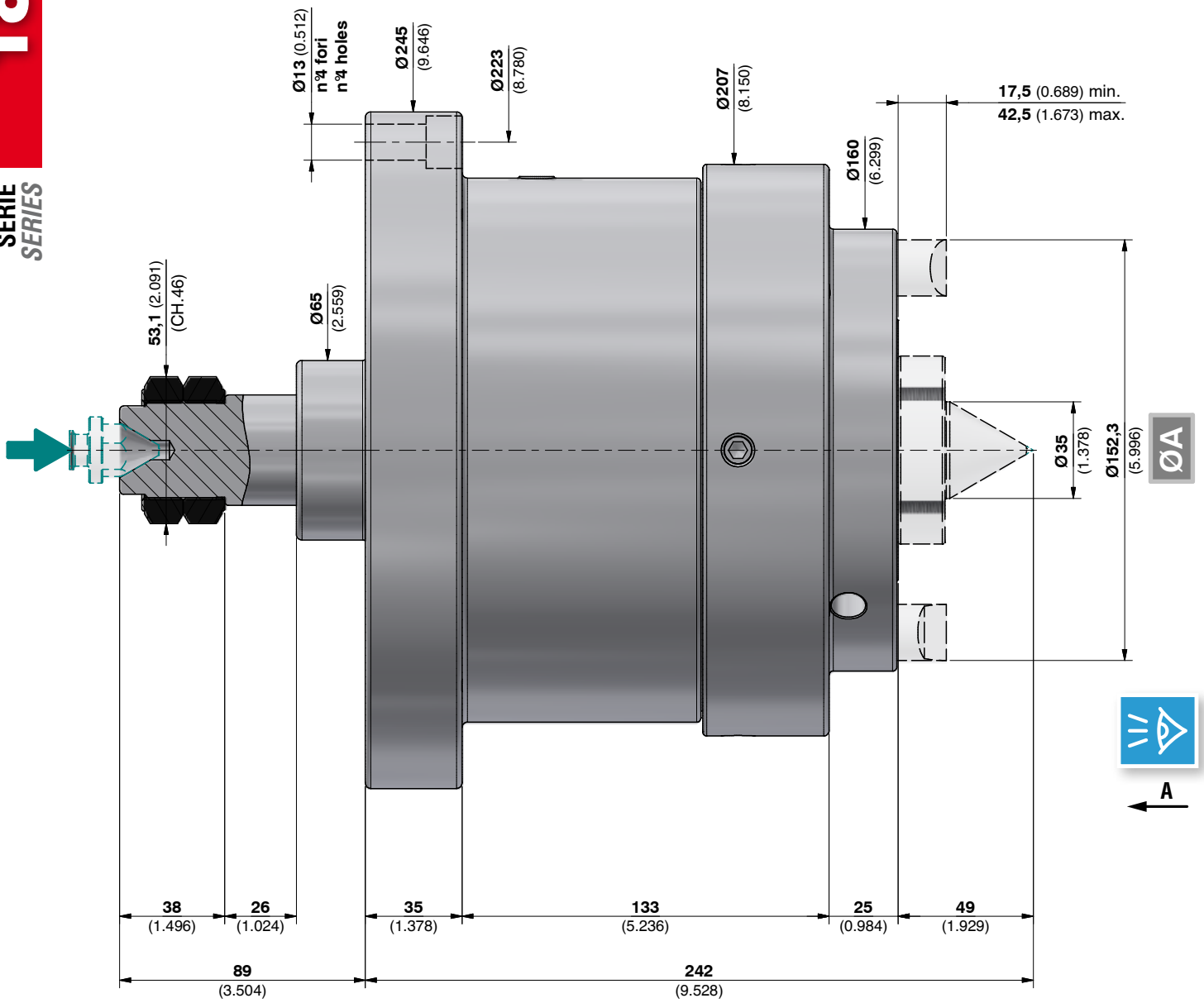
072102765

PUNTE CENTRALI A CAPRUGGINE
CENTER POINTS WITH SLOTS



	Dimensioni *Dimensions*		Per centri o fori *For centers or holes*	
	Ø A	Ø B	dal / *from* Ø	al / *to the* Ø
171714019	25 (0.984)	48 (1.890)	28 (1.102)	47 (1.850)
171714020	42 (1.654)	65 (2.559)	45 (1.772)	64 (2.520)
171714021	60 (2.362)	83 (3.268)	63 (2.480)	82 (3.228)
171714022	78 (3.071)	101 (3.976)	81 (3.189)	100 (3.937)

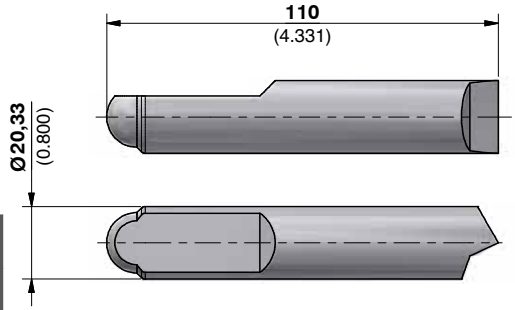
TRASCINATORE FRONTALE 180/300 VERSIONE FLANGIATA
FACE DRIVER 180/300 FLANGED VERSION



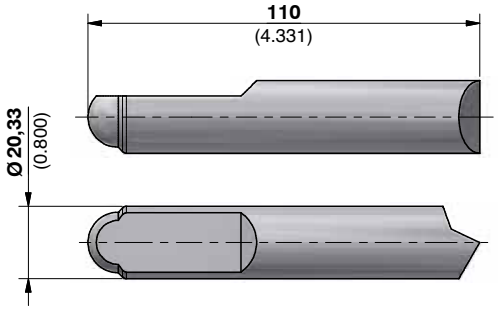
ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

070760051A

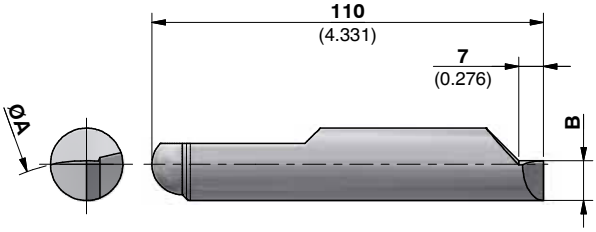
ARTIGLI
DRIVING PINS



Antiorario *CCW*	
	Ø A
080810212	152,3 (5.996)



Orario *CW*	
	Ø A
080810213	152,3 (5.996)

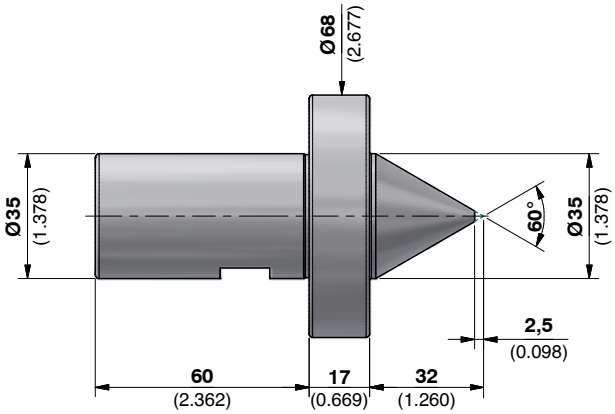


ØA **Diametro di presa degli artigli**
Clamping diameter of the driving pins

Antiorario *CCW*		
	Ø A	B
090900084	124 (4.882)	6,2 (0.244)
090900089	129 (5.079)	8,7 (0.343)
090900094	134 (5.276)	11,2 (0.441)
090900099	139 (5.472)	13,7 (0.539)

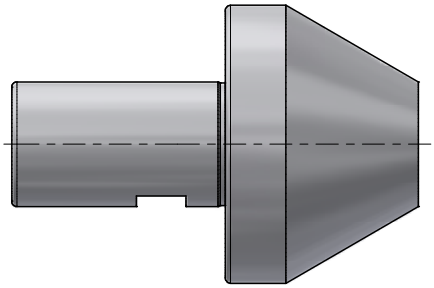
Orario *CW*		
	Ø A	B
090901084	124 (4.882)	6,2 (0.244)
090901089	129 (5.079)	8,7 (0.343)
090901094	134 (5.276)	11,2 (0.441)
090901099	139 (5.472)	13,7 (0.539)

PUNTA CENTRALE
CENTER POINT



072102763

PUNTE CENTRALI A CAPRUGGINE
CENTER POINTS WITH SLOTS



Disponibile su richiesta
Available on request

TRASCINATORI PER RETTIFICA
FACE DRIVER FOR GRINDING

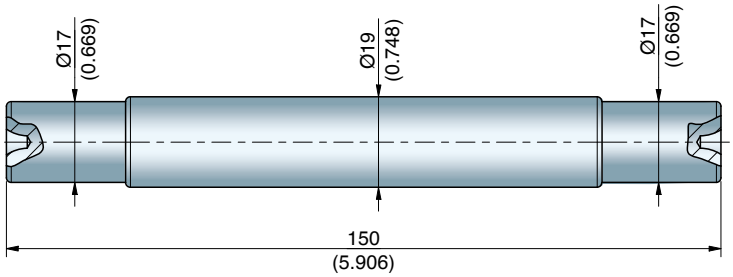
< 0.0025 | < 0.0015

Con questa gamma di trascinatori, per trainare anche alberi temprati fino ad HRC 63, siamo convinti di soddisfare qualsiasi esigenza tecnica proposta.
Il trascinatore ha all'interno un sistema di autocompensazione degli artigli molto sensibile che gli permette di avere un'altissima capacità di traino e un'estrema precisione di concentricità ottenibile sul pezzo da rettificare.
Per esempio, per rettificare un albero da diametro 5 mm a diametro 7 mm, ipotizzando un contatto di fascia mola di 40 mm, sono sufficienti 70 kg di spinta assiale dal lato della contropunta rotante (anche questa da noi fornita per poter ottenere una rotondità dell'albero entro 0,0015 mm).

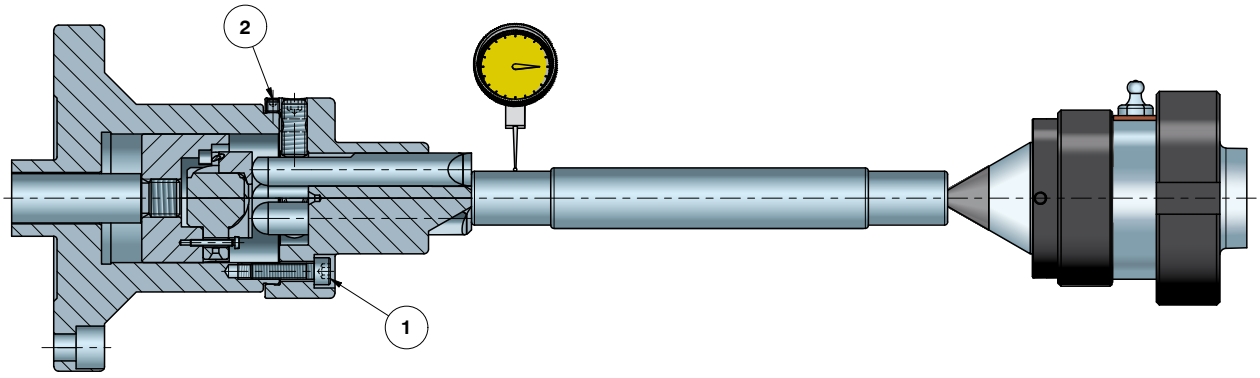
With this range of face drivers, for driving even hardened shafts of up to HRC 63, we are convinced to satisfy any proposed technical requirement.
The face driver has integrated a highly sensitive self-compensation system of the driving pins that allows it to have a very high driving capacity and an extreme precision of concentricity obtainable on the workpieces to be ground.
For example, for grind a shaft from diameter 5 mm to diameter 7 mm, assuming a contact wheel of 40 mm, 70 kg of axial thrust on the side of the live center are sufficient (also supplied by us in order to obtain a shaft roundness within 0,0015 mm).

ALBERO DI CENTRAGGIO
CENTERING SHAFT

012920001



ISTRUZIONI PER IL CENTRAGGIO DELLA TESTINA PORTA ARTIGLI MEDIANTE L'ALBERO DI CENTRAGGIO
INSTRUCTIONS FOR CENTERING THE DRIVING PIN WASHER BY MEANS OF THE CENTERING SHAFT



L'albero di centraggio serve per centrare la punta centrale del trascinatore entro i 0,002 mm.
Inserire l'albero di centraggio fra trascinatore e contropunta nelle stesse identiche condizioni di carico assiale del pezzo da lavorare.
Allentare quindi leggermente con una chiave a brugola le viti pos.1 (vedi figura).
Posizionare il comparatore millesimale sull'albero dal lato trascinatore e utilizzando i grani pos. 2, centrare l'albero.
Ottenuta la centratura desiderata, lasciando in appoggio i grani, riserrare le viti pos. 1.

The centering shaft is used to center the face driver's centre point within 0,002 mm.
Putting the centering shaft between face driver and live center in the same axial load conditions as those of piece to be machined.
Then use an allen wrench to slightly unloose the screws pos. 1 (see picture).
Position the micrometer-comparator on the face driver side of the centering shaft and center the shaft by means of the dowels pos.2.
Once obtained centering required, leaving the dowels resting and tighten the screw pos.1.

ISTRUZIONI PER LA SCELTA DEI PARAMETRI DI CARICO ASSIALE SU CONTROPUNTE E TRASCINATORI
INSTRUCTIONS FOR SELECTING AXIAL LOAD PARAMETERS ON LIVE CENTERS AND FACE DRIVERS

PER ALBERI *FOR SHAFTS*		SPINTA ASSIALE MINIMA *MINIMUM AXIAL THRUST* (Per contatti mola di circa 40 mm) *(For grinding wheel contacts about 40 mm)*		SPINTA ASSIALE MASSIMA *MAXIMUM AXIAL THRUST* (Per contatti mola di circa 80 mm) *(For grinding wheel contacts about 80 mm)*	
		Sugli artigli *On the driving pins*	Sulla contropunta *On the live center*	Sugli artigli *On the driving pins*	Sulla contropunta *On the live center*
Dal Ø / *From Ø*	**Al Ø / *To Ø***	**kg (lbs)**	**kg (lbs)**	**kg (lbs)**	**kg (lbs)**
5 (0.197)	**9 (0.354)**	56 (123)	70 (154)	88 (194)	110 (243)
10 (0.394)	**15 (0.591)**	72 (159)	90 (198)	120 (265)	150 (331)
16 (0.630)	**30 (1.181)**	80 (176)	100 (220)	160 (353)	200 (441)
31 (1.220)	**50 (1.969)**	120 (265)	150 (331)	200 (441)	250 (551)
51 (2.008)	**100 (3.937)**	176 (388)	220 (485)	240 (529)	300 (661)

N.B. I suddetti valori sono comunque indicativi e variabili in considerazione della fascia di contatto mola, del tipo di materiale da lavorare e dalla tipologia di pezzo.
Per avere dei valori esatti ed ulteriori informazioni potete contattarci.

N.B. The above values are indicative and variables considering the tread of the wheel, the type of material to be machined and the type of workpiece. For exact values and further information you can contact us.

VERIFICA DELLE SPINTE ASSIALI
AXIAL THRUST CHECK

Evitare assolutamente, dopo aver bloccato il pezzo tra contropunta e trascinatore, di verificare la tenuta del traino tentando di ruotare il pezzo con le mani; questa operazione infatti causa una sicura perdita del tagliente dell'artiglio in metallo duro.

Never, after locking piece between the tailstock and the face driver, check the driving capacity trying to rotate the piece with the hands; this fact leads to a certain loss of sharp in the carbide driving pin.

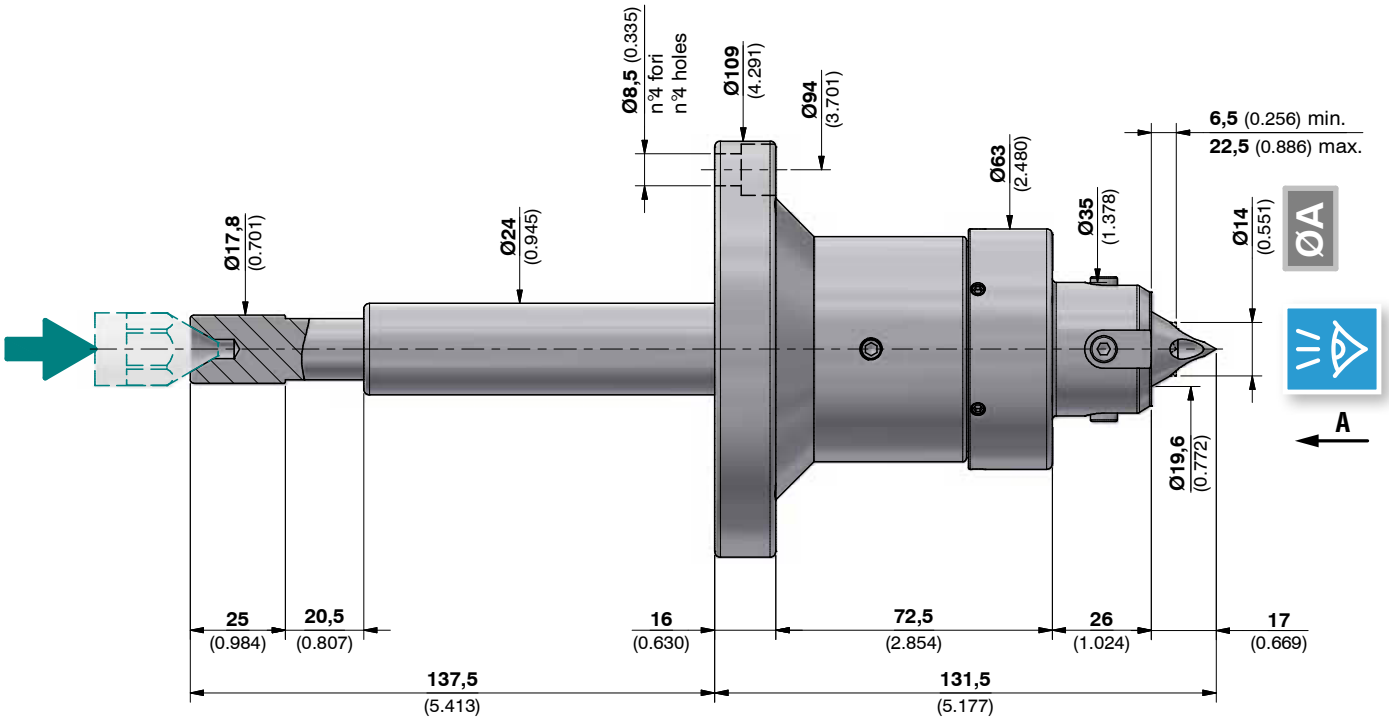
Se non possedete una cella di carico (vedi la nostra a pag. 81) o un dinamometro per queste verifiche, potrete ottenere i valori di spinta in kg, moltiplicando l'area del cilindro pneumatico o idraulico (ottenuta moltiplicando il raggio in cm x raggio x 3,14) per la pressione del cilindro in bar o atmosfere.

FORMULA:
r^2 (in cm) x π x P (in BAR o ATM) = Spinta in kg.

If you don't have a load cell (see our on page 81) or a dynamometer for these checks, you can obtain thrust values in kg by multiplying the area of the pneumatic or hydraulic cylinder (obtained by multyplying radius in cm x radius x 3,14) by the pressure of the cylinder in bar or atmospheres.

FORMULA:
r^2 (in cm) x π x P (in BAR o ATM) = Thrust in kg.

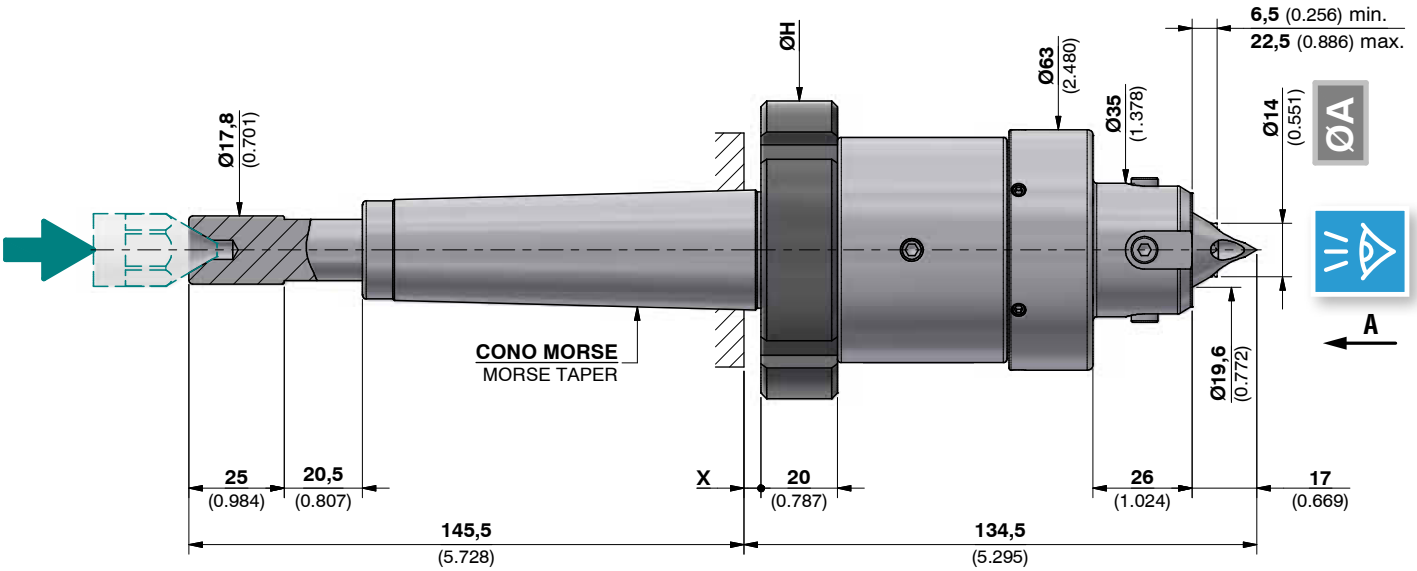
TRASCINATORE FRONTALE 7/25 VERSIONE FLANGIATA
FACE DRIVER 7/25 FLANGED VERSION



ATTENZIONE: Gli artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: The driving pins ARE NOT INCLUDED in the face driver.

070921074A

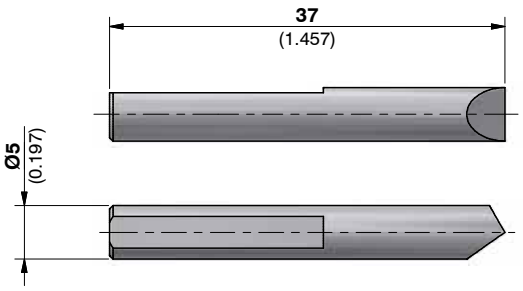
TRASCINATORE FRONTALE 7/25 VERSIONE CONO MORSE
FACE DRIVER 7/25 MORSE TAPER VERSION



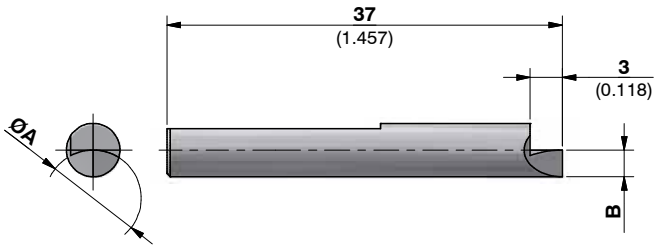
		X	ØH
070921048A	CM4/MT4	4,5 (0.177)	78 (3.071)
070922048A	CM5/MT5	4,5 (0.177)	78 (3.071)
070923048A	CM6/MT6	6 (0.236)	88 (3.465)

ATTENZIONE: Gli artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: The driving pins ARE NOT INCLUDED in the face driver.

ARTIGLI
DRIVING PINS



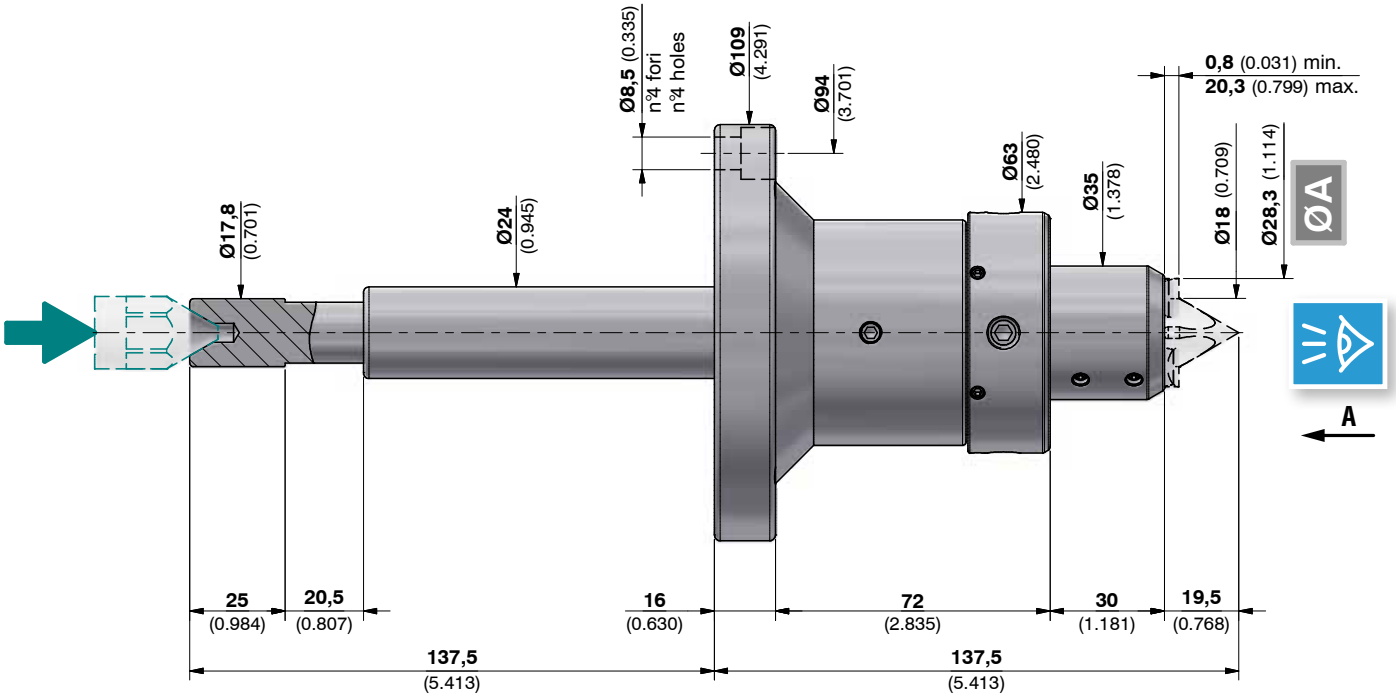
Antiorario *CCW*	
	Ø A
080920001	14 (0.551)



ØA **Diametro di presa degli artigli**
Clamping diameter of the driving pins

Antiorario *CCW*		
	Ø A	B
091920007	7 (0.276)	1,5 (0.059)
091920008	8 (0.315)	2 (0.079)
091920009	9 (0.354)	2,5 (0.098)
091920010	10 (0.394)	3 (0.118)
091920011	11 (0.433)	3,5 (0.138)
091920012	12 (0.472)	4 (0.157)

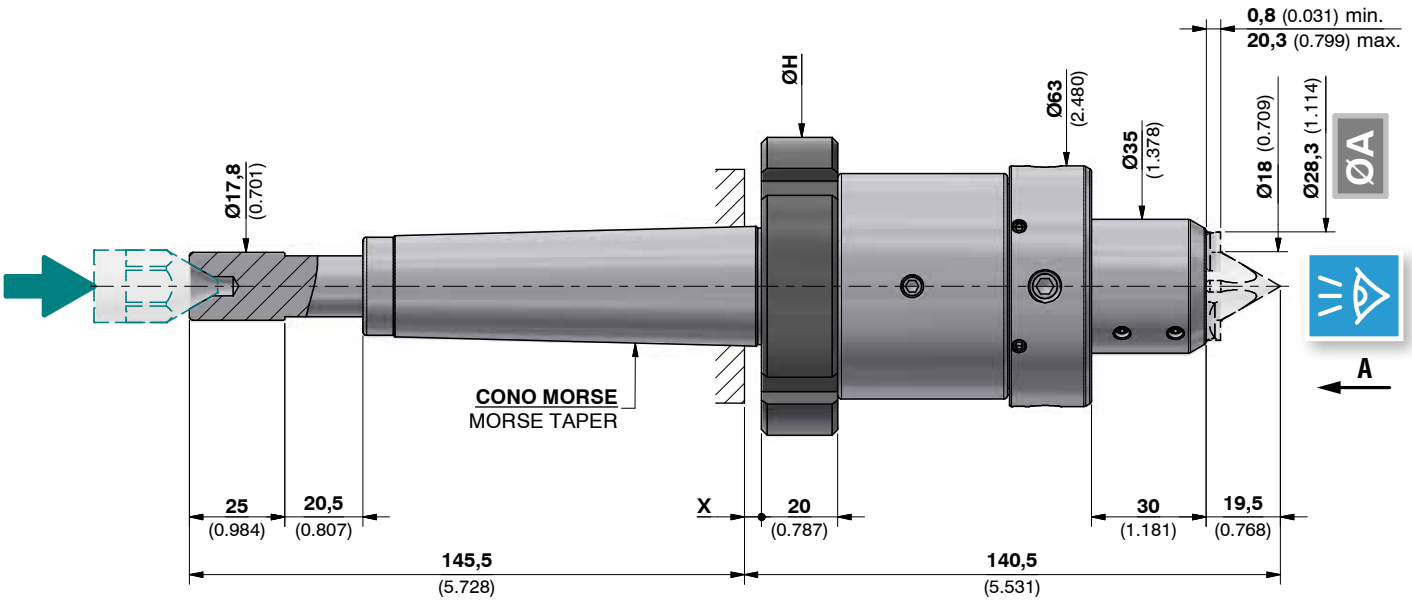
TRASCINATORE FRONTALE 12/70 VERSIONE FLANGIATA
FACE DRIVER 12/70 FLANGED VERSION



ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

070921060A

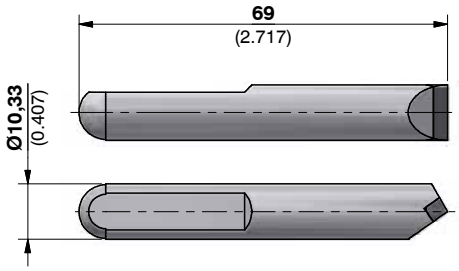
TRASCINATORE FRONTALE 12/70 VERSIONE CONO MORSE
FACE DRIVER 12/70 MORSE TAPER VERSION



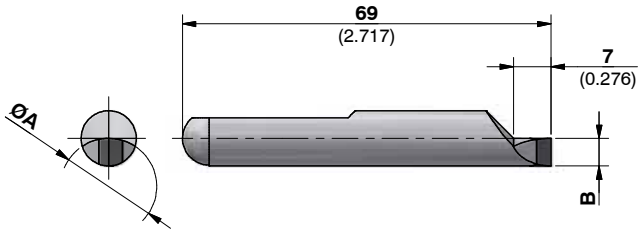
		X	ØH
070921036A	CM4/MT4	4,5 (0.177)	78 (3.071)
070922036A	CM5/MT5	4,5 (0.177)	78 (3.071)
070923036A	CM6/MT6	3,5 (0.138)	88 (3.465)

ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

ARTIGLI
DRIVING PINS



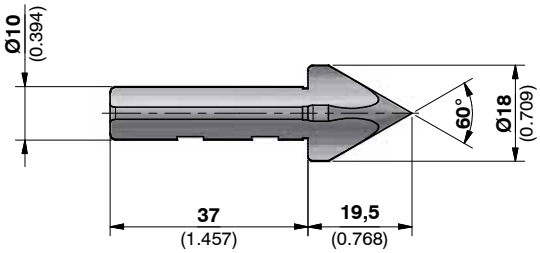
Antiorario *CCW*	
	Ø A
080920003	28,3 (1.114)



ØA **Diametro di presa degli artigli**
Clamping diameter of the driving pins

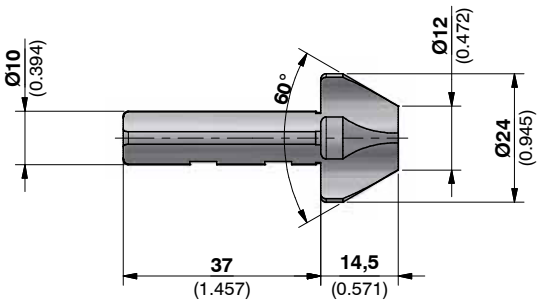
Antiorario *CCW*		
	Ø A	B
091920114	14 (0.551)	3,2 (0.126)
091920116	16 (0.630)	4,2 (0.165)
091920118	18 (0.709)	5,2 (0.205)
091920120	20 (0.787)	6,2 (0.244)
091920122	22 (0.866)	7,2 (0.283)
091920124	24 (0.945)	8,2 (0.323)
091920126	26 (1.024)	9,2 (0.362)

PUNTA CENTRALE
CENTER POINT



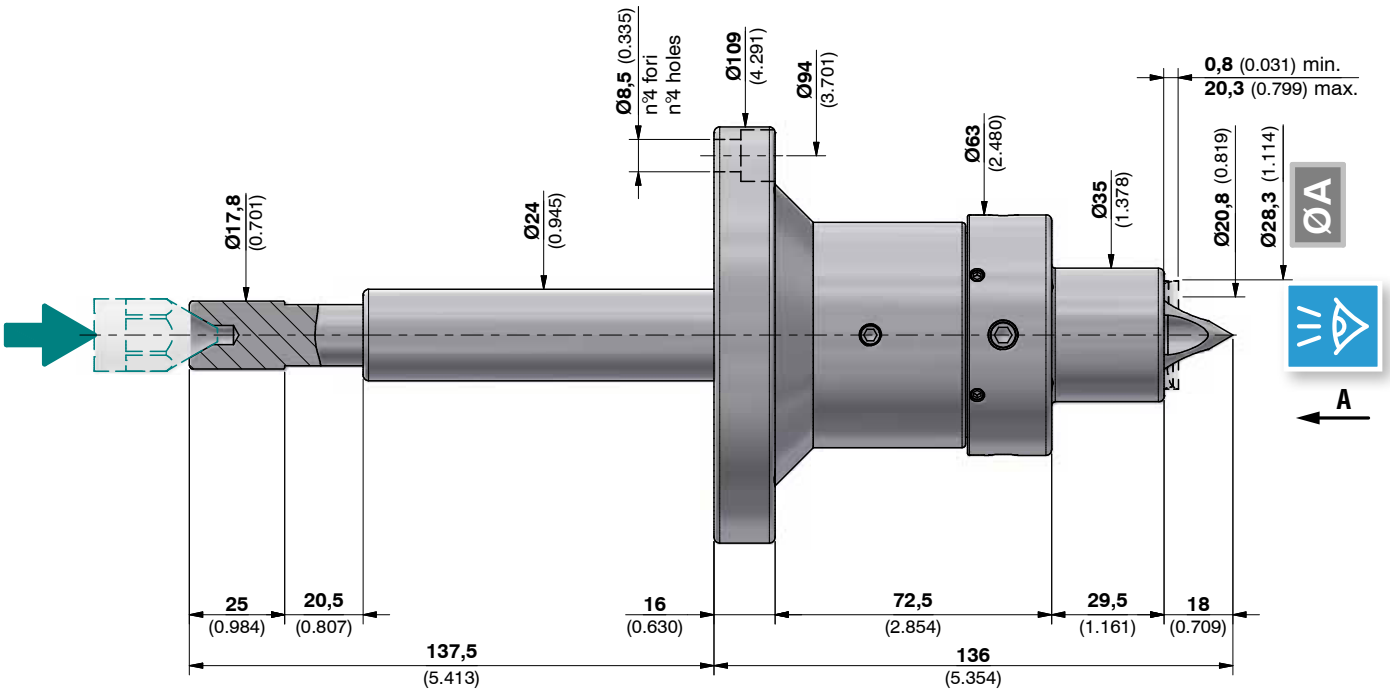
072102768

PUNTE CENTRALI A CAPRUGGINE
CENTER POINT WITH SLOTS



	per centri o fori / *for centers or holes*	
	dal / *from* Ø	al / *to the* Ø
179200101	15 (0.591)	22 (0.866)

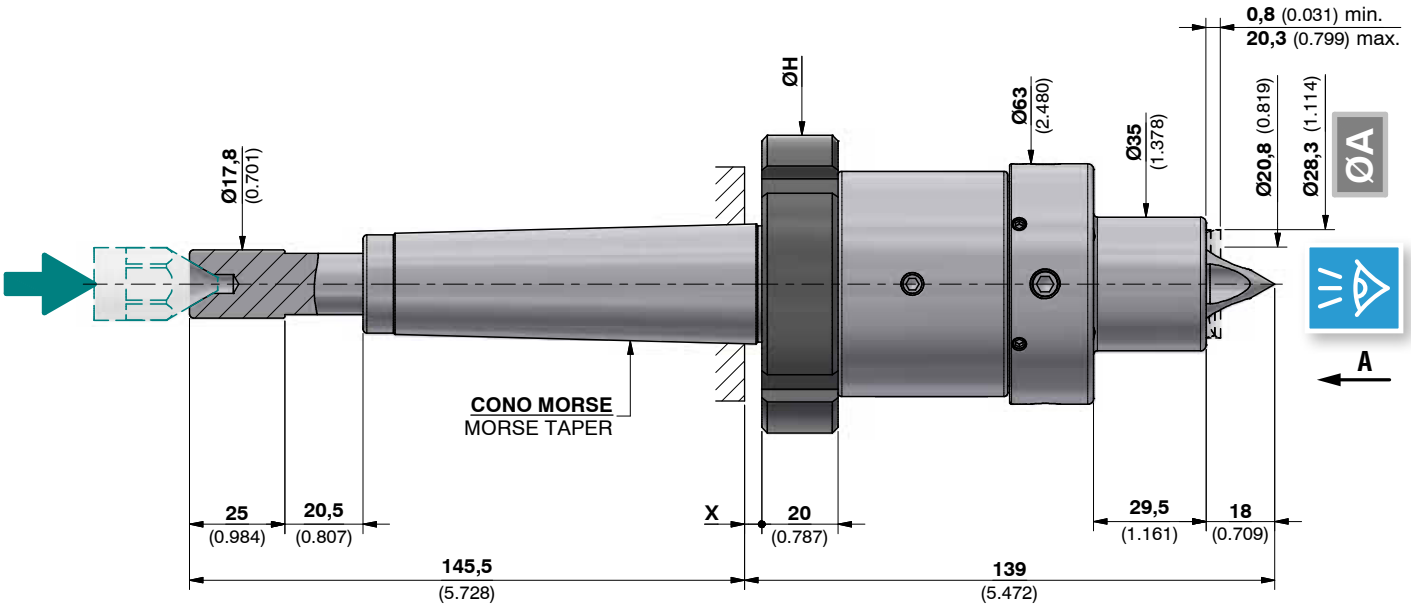
TRASCINATORE 12/70 CON PUNTA INTEGRALE VERSIONE FLANGIATA
FACE DRIVER 12/70 WITH INTEGRAL CENTER POINT FLANGED VERSION



ATTENZIONE: Gli artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: The driving pins ARE NOT INCLUDED in the face driver.

070921068A

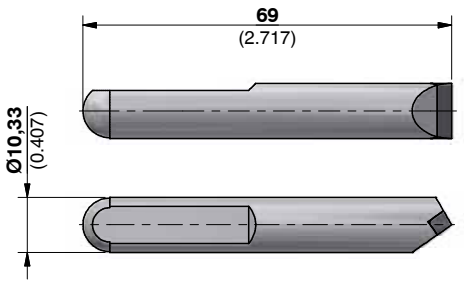
TRASCINATORE 12/70 CON PUNTA INTEGRALE VERSIONE CONO MORSE
FACE DRIVER 12/70 WITH INTEGRAL CENTER POINT MORSE TAPER VERSION



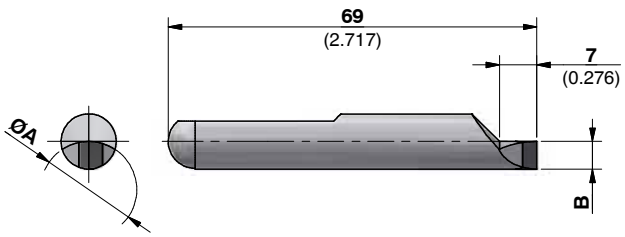
		X	ØH
070921044A	CM4/MT4	4,5 (0.177)	78 (3.071)
070922044A	CM5/MT5	4,5 (0.177)	78 (3.071)
070923044A	CM6/MT6	3,5 (0.138)	88 (3.465)

ATTENZIONE: Gli artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: The driving pins ARE NOT INCLUDED in the face driver.

ARTIGLI
DRIVING PINS



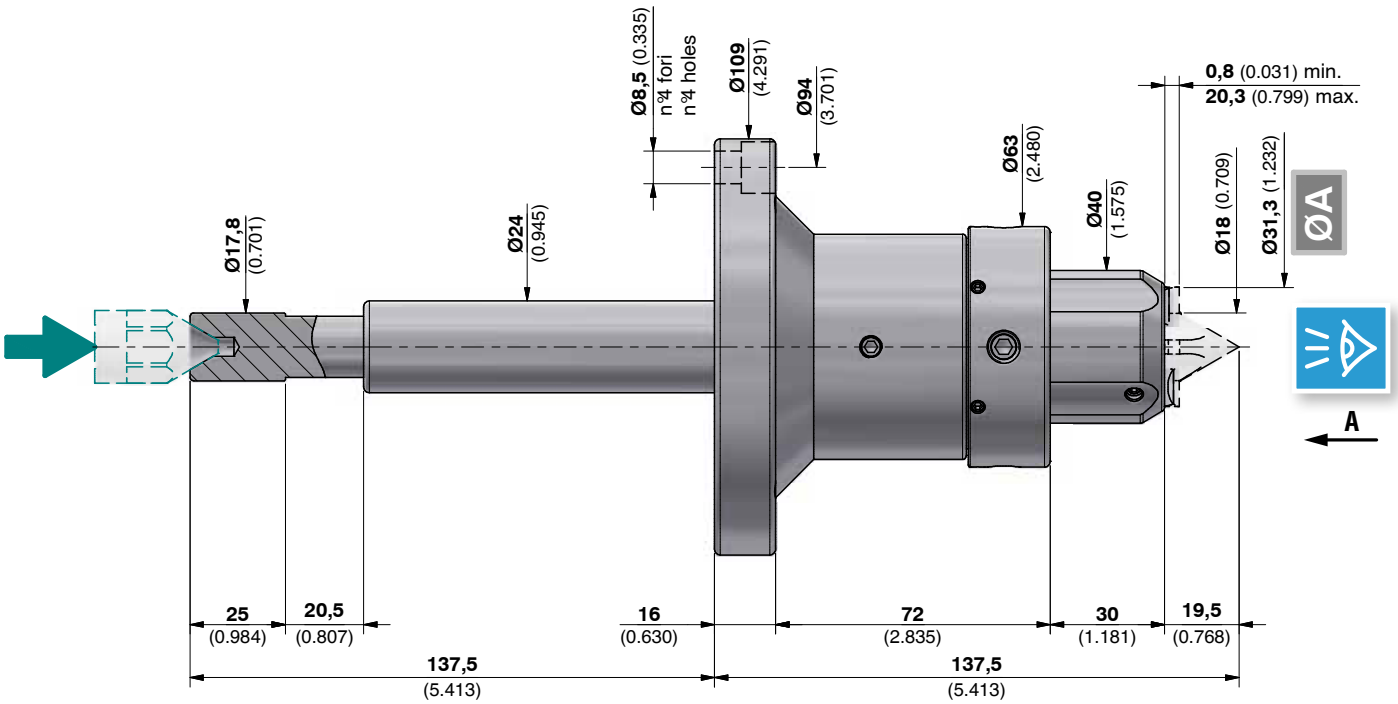
Antiorario *CCW*	
	Ø A
080920003	28,3 (1.114)



ØA **Diametro di presa degli artigli**
Clamping diameter of the driving pins

Antiorario *CCW*		
	Ø A	B
091920114	14 (0.551)	3,2 (0.126)
091920116	16 (0.630)	4,2 (0.165)
091920118	18 (0.709)	5,2 (0.205)
091920120	20 (0.787)	6,2 (0.244)
091920122	22 (0.866)	7,2 (0.283)
091920124	24 (0.945)	8,2 (0.323)
091920126	26 (1.024)	9,2 (0.362)

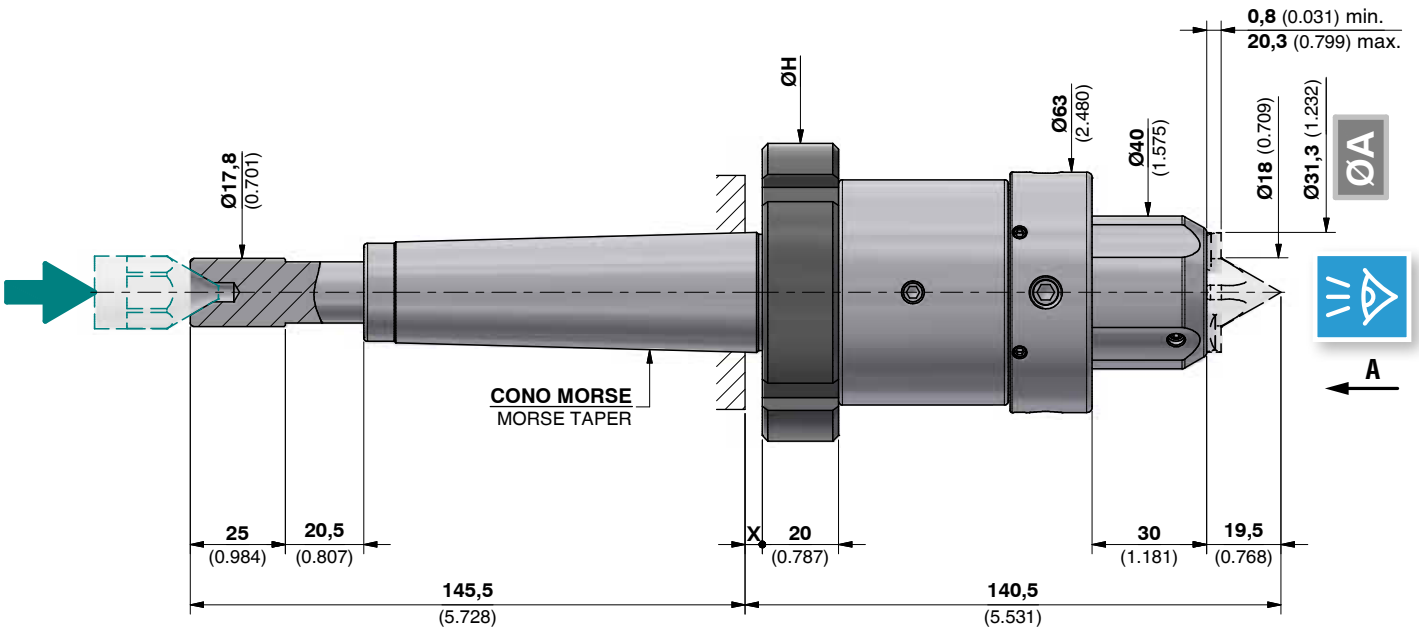
TRASCINATORE FRONTALE 15/75 VERSIONE FLANGIATA
FACE DRIVER 15/75 FLANGED VERSION



ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

070921067A

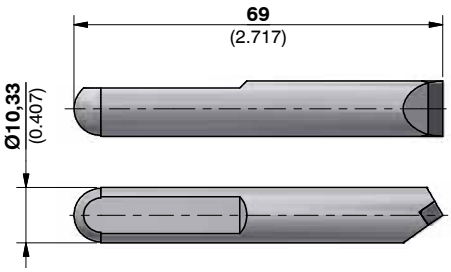
TRASCINATORE FRONTALE 15/75 VERSIONE CONO MORSE
FACE DRIVER 15/75 MORSE TAPER VERSION



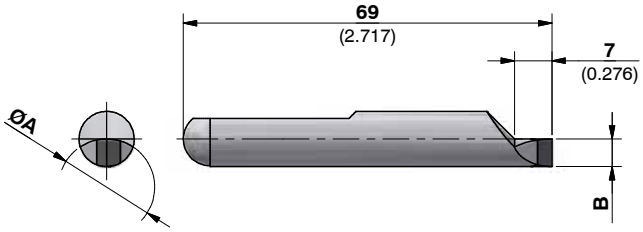
		X	ØH
070921045A	CM4/MT4	4,5 (0.177)	78 (3.071)
070922045A	CM5/MT5	4,5 (0.177)	78 (3.071)
070923045A	CM6/MT6	3,5 (0.138)	88 (3.465)

ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

ARTIGLI
DRIVING PINS



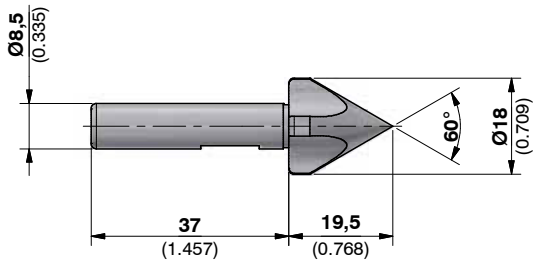
Antiorario *CCW*	
	Ø A
080920003	31,3 (1.232)



ØA **Diametro di presa degli artigli**
Clamping diameter of the driving pins

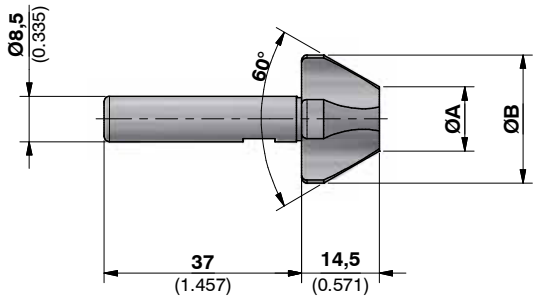
Antiorario *CCW*		
	Ø A	B
091920114	17 (0.669)	3,2 (0.126)
091920116	19 (0.748)	4,2 (0.165)
091920118	21 (0.827)	5,2 (0.205)
091920120	23 (0.906)	6,2 (0.244)
091920122	25 (0.984)	7,2 (0.283)
091920124	27 (1.063)	8,2 (0.323)
091920126	29 (1.142)	9,2 (0.362)

PUNTA CENTRALE
CENTER POINT



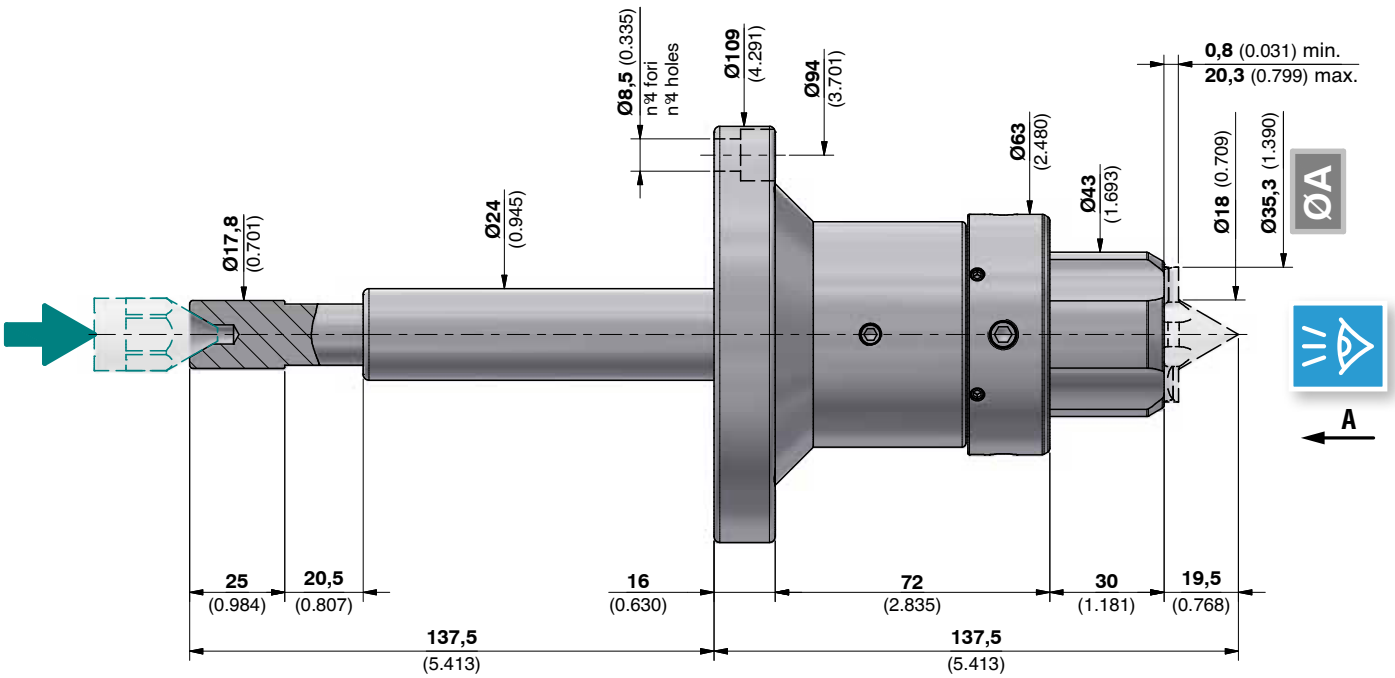
072102769

PUNTE CENTRALI A CAPRUGGINE
CENTER POINTS WITH SLOTS



	Dimensioni *Dimensions*		Per centri o fori *For centers or holes*	
	Ø A	Ø B	dal / *from* Ø	al / *to the* Ø
171711018	12 (0.472)	24 (0.945)	15 (0.591)	23 (0.906)
171711021	18 (0.709)	30 (1.181)	21 (0.827)	26 (0.1024)

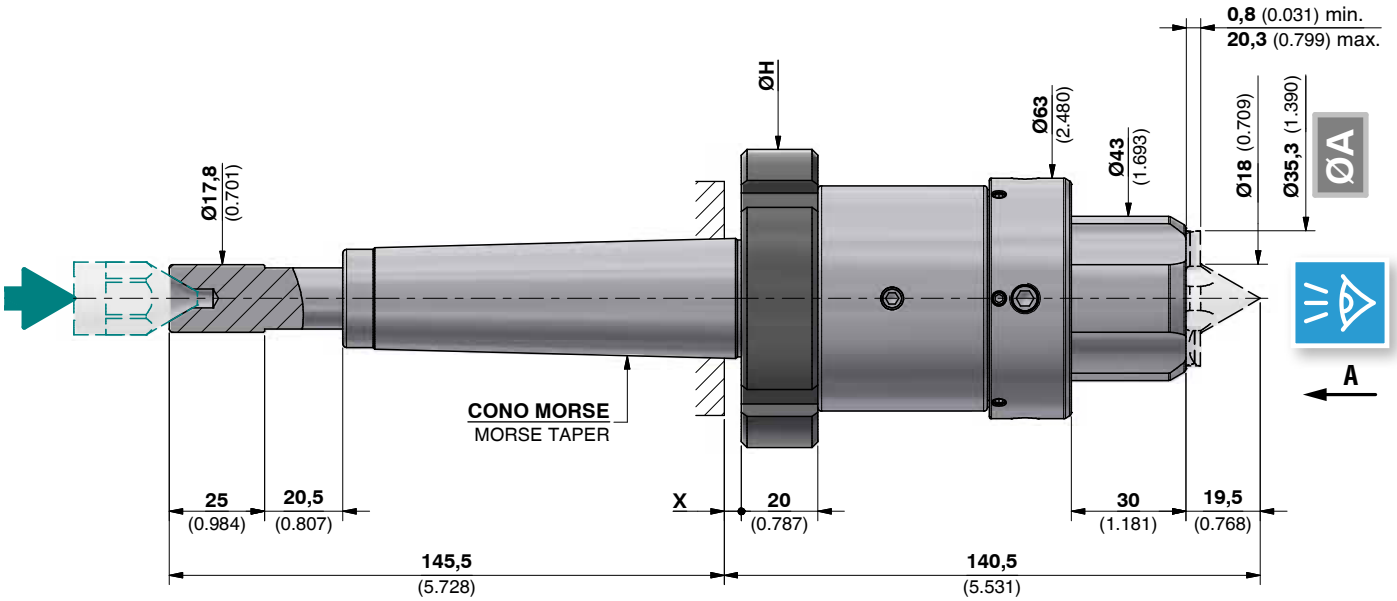
TRASCINATORE FRONTALE 20/80 VERSIONE FLANGIATA
FACE DRIVER 20/80 FLANGED VERSION



ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

070921069A

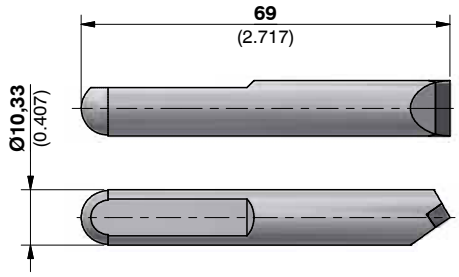
TRASCINATORE FRONTALE 20/80 VERSIONE CONO MORSE
FACE DRIVER 20/80 MORSE TAPER VERSION



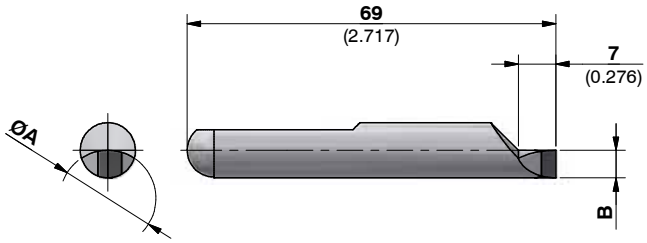
		X	ØH
070921047A	CM4/MT4	4,5 (0.177)	78 (3.071)
070922047A	CM5/MT5	4,5 (0.177)	78 (3.071)
070923047A	CM6/MT6	3,5 (0.138)	88 (3.465)

ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

ARTIGLI
DRIVING PINS



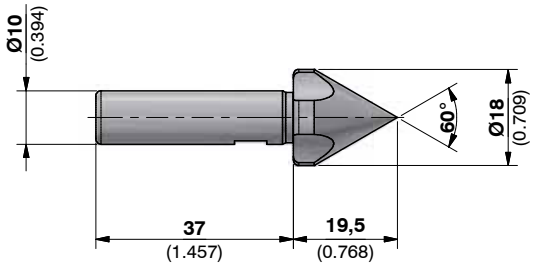
Antiorario *CCW*	
	Ø A
080920003	35,3 (1.390)



ØA **Diametro di presa degli artigli**
Clamping diameter of the driving pins

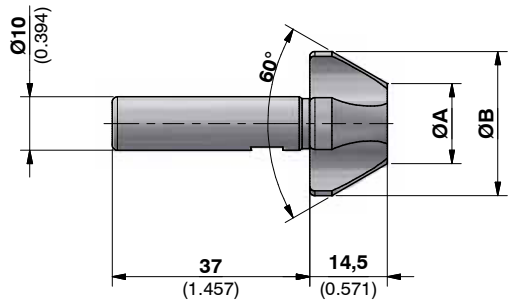
Antiorario *CCW*		
	Ø A	B
091920114	21 (0.827)	3,2 (0.126)
091920116	23 (0.906)	4,2 (0.165)
091920118	25 (0.984)	5,2 (0.205)
091920120	27 (1.063)	6,2 (0.244)
091920122	29 (1.142)	7,2 (0.283)
091920124	31 (1.220)	8,2 (0.323)
091920126	33 (1.299)	9,2 (0.362)

PUNTA CENTRALE
CENTER POINT



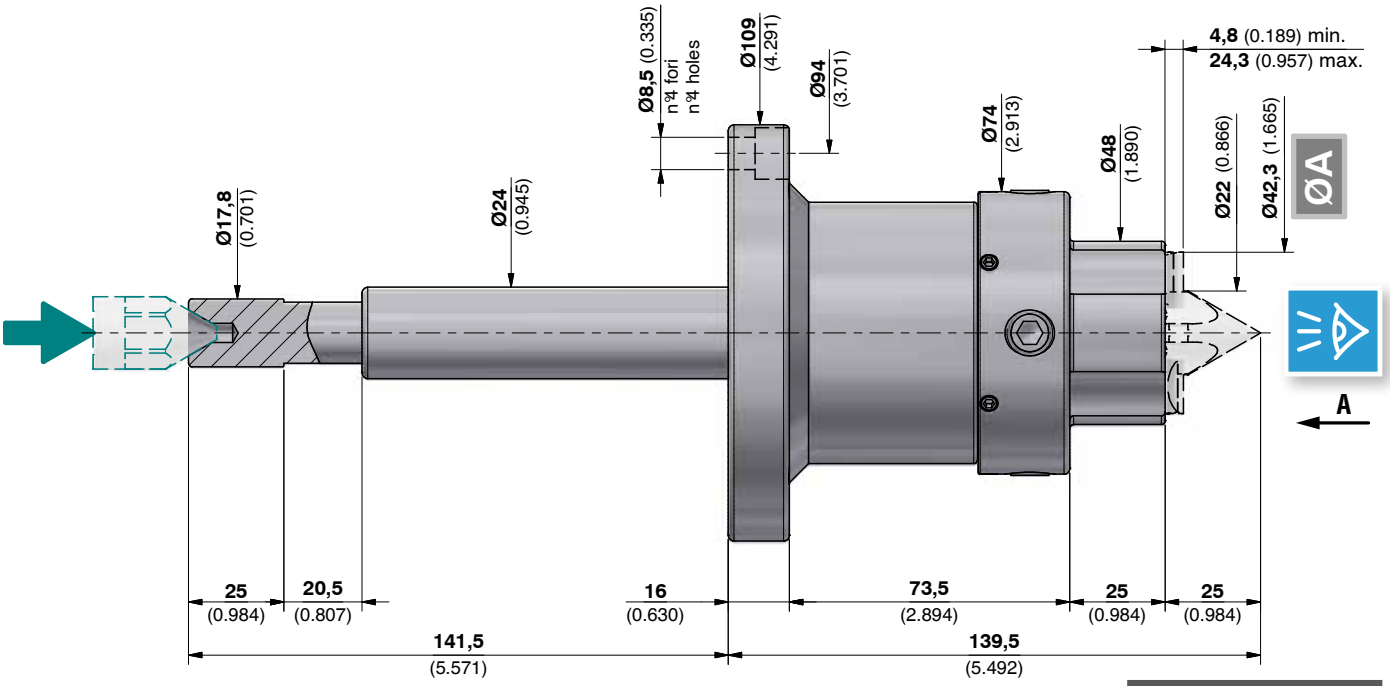
072102770

PUNTE CENTRALI A CAPRUGGINE
CENTER POINTS WITH SLOTS



	Dimensioni *Dimensions*		Per centri o fori *For centers or holes*	
	Ø A	Ø B	dal / *from* Ø	al / *to the* Ø
171712021	12 (0.472)	24 (0.945)	15 (0.591)	23 (0.906)
171712023	15 (0.591)	27 (1.063)	18 (0.709)	26 (1.024)
171712025	18 (0.709)	30 (1.181)	21 (0.827)	29 (1.142)
171712028	24 (0.945)	36 (1.417)	26 (1.024)	31 (1.220)

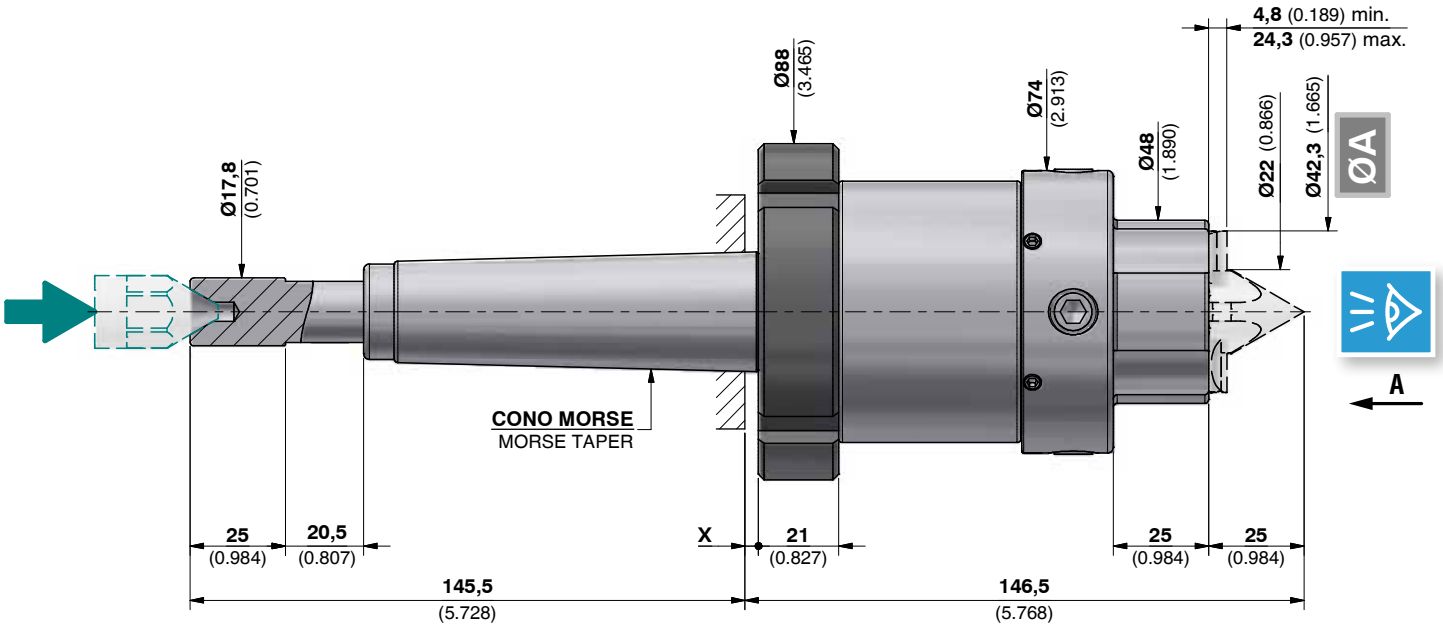
TRASCINATORE FRONTALE 20/100 VERSIONE FLANGIATA
FACE DRIVER 20/100 FLANGED VERSION



ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

070921088A

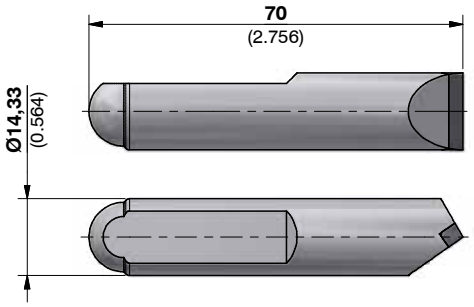
TRASCINATORE FRONTALE 20/100 VERSIONE CONO MORSE
FACE DRIVER 20/100 MORSE TAPER VERSION



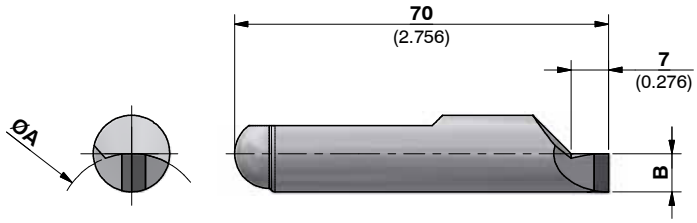
		X
070921080A	CM4/MT4	3,5 (0.138)
070922080A	CM5/MT5	3,5 (0.138)
070923080A	CM6/MT6	5,5 (0.217)

ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

ARTIGLI
DRIVING PINS



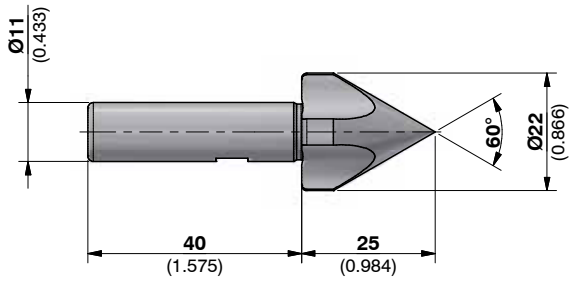
Antiorario *CCW*	
	Ø A
080920004	42,3 (1.665)



ØA **Diametro di presa degli artigli**
Clamping diameter of the driving pins

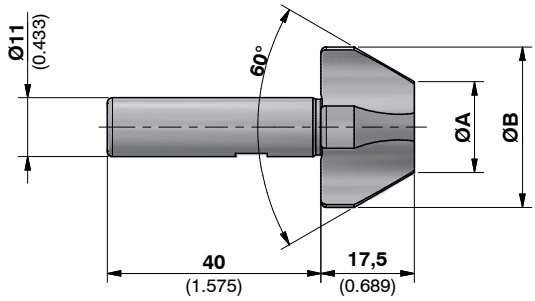
Antiorario *CCW*		
	Ø A	B
091920222	22 (0.866)	4,2 (0.165)
091920224	24 (0.945)	5,2 (0.205)
091920226	26 (1.024)	6,2 (0.244)
091920228	28 (1.102)	7,2 (0.283)
091920230	30 (1.181)	8,2 (0.323)
091920232	32 (1.260)	9,2 (0.362)
091920234	34 (1.339)	10,2 (0.402)
091920236	36 (1.417)	11,2 (0.441)

PUNTA CENTRALE
CENTER POINT



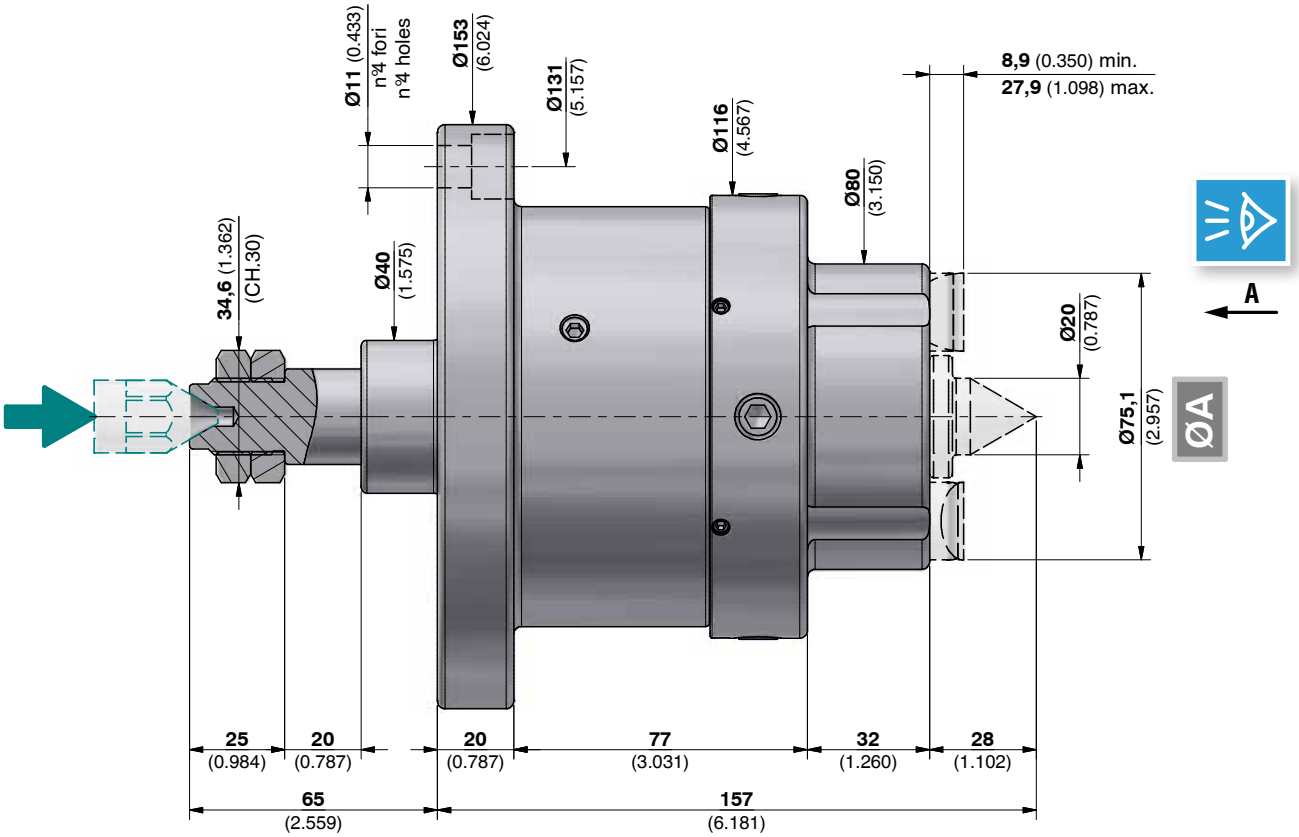
072102771

PUNTE CENTRALI A CAPRUGGINE
CENTER POINTS WITH SLOTS



	Dimensioni *Dimensions*		Per centri o fori *For centers or holes*	
	Ø A	Ø B	dal / *from* Ø	al / *to the* Ø
179200114	17 (0.669)	30 (1.181)	19 (0.748)	29 (1.142)
179200116	23 (0.906)	36 (1.417)	25 (0.984)	35 (1.378)

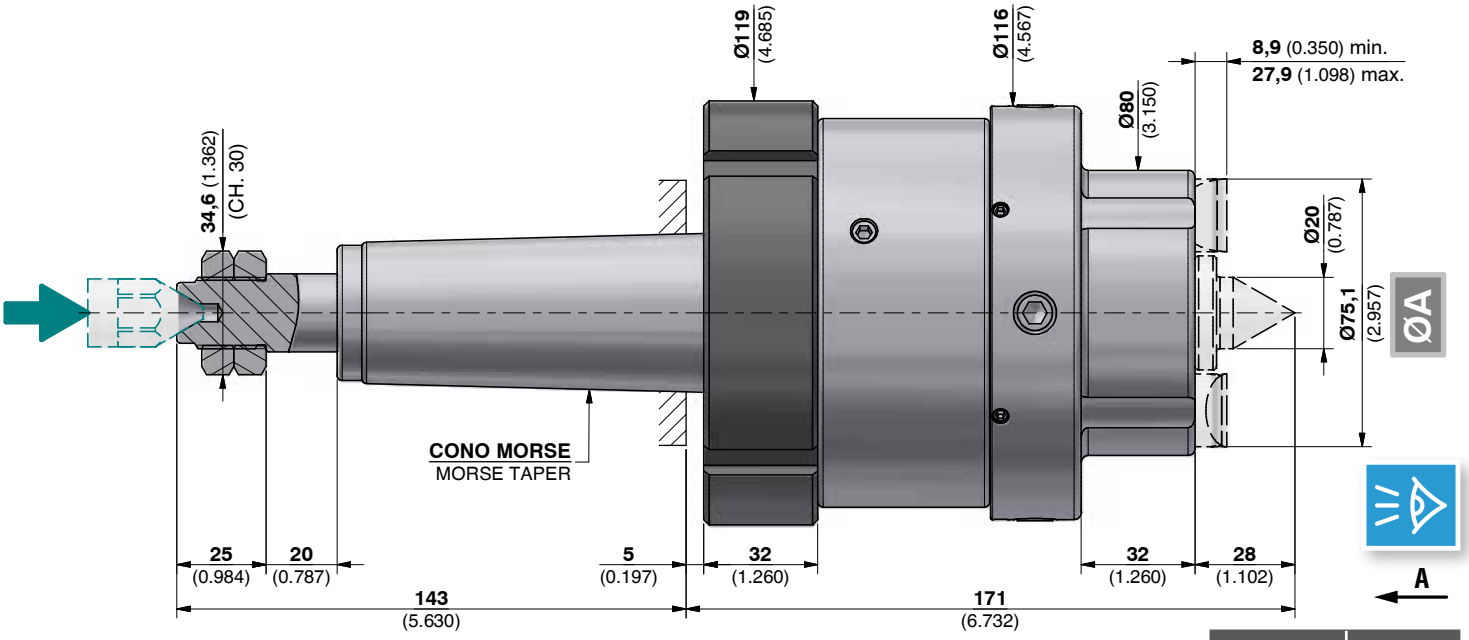
TRASCINATORE FRONTALE 45/150 VERSIONE FLANGIATA
FACE DRIVER 45/150 FLANGED VERSION



ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

070921096A

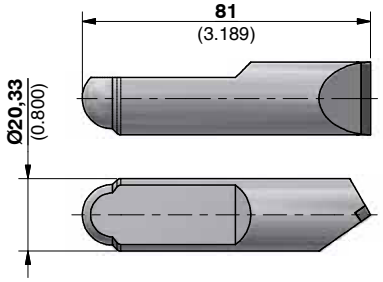
TRASCINATORE FRONTALE 45/150 VERSIONE CONO MORSE
FACE DRIVER 45/150 MORSE TAPER VERSION



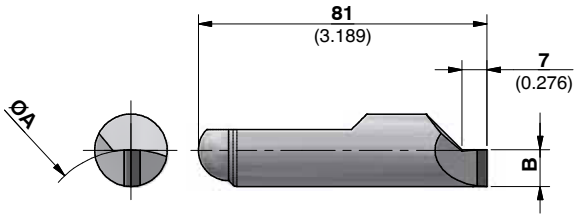
ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

070921092A	CM5/MT5
070922092A	CM6/MT6

ARTIGLI
DRIVING PINS



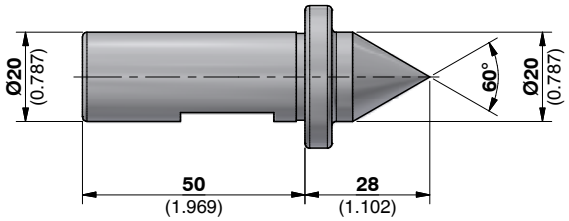
Antiorario *CCW*	
	Ø A
080920005	75,1 (2.957)



Antiorario *CCW*		
	Ø A	B
091920344	44 (1.732)	4,8 (0.189)
091920350	50 (1.969)	7,8 (0.307)
091920355	55 (2.165)	10,3 (0.406)
091920360	60 (2.362)	12,8 (0.504)
091920365	65 (2.559)	15,3 (0.602)

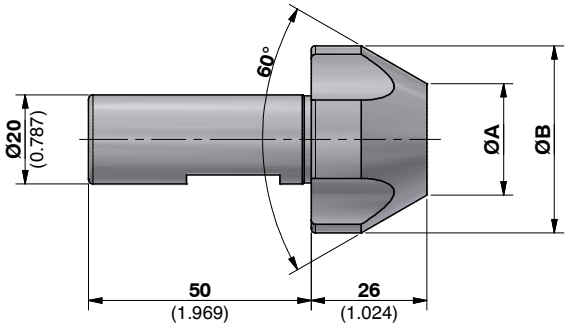
ØA **Diametro di presa degli artigli**
Clamping diameter of the driving pins

PUNTA CENTRALE
CENTER POINT



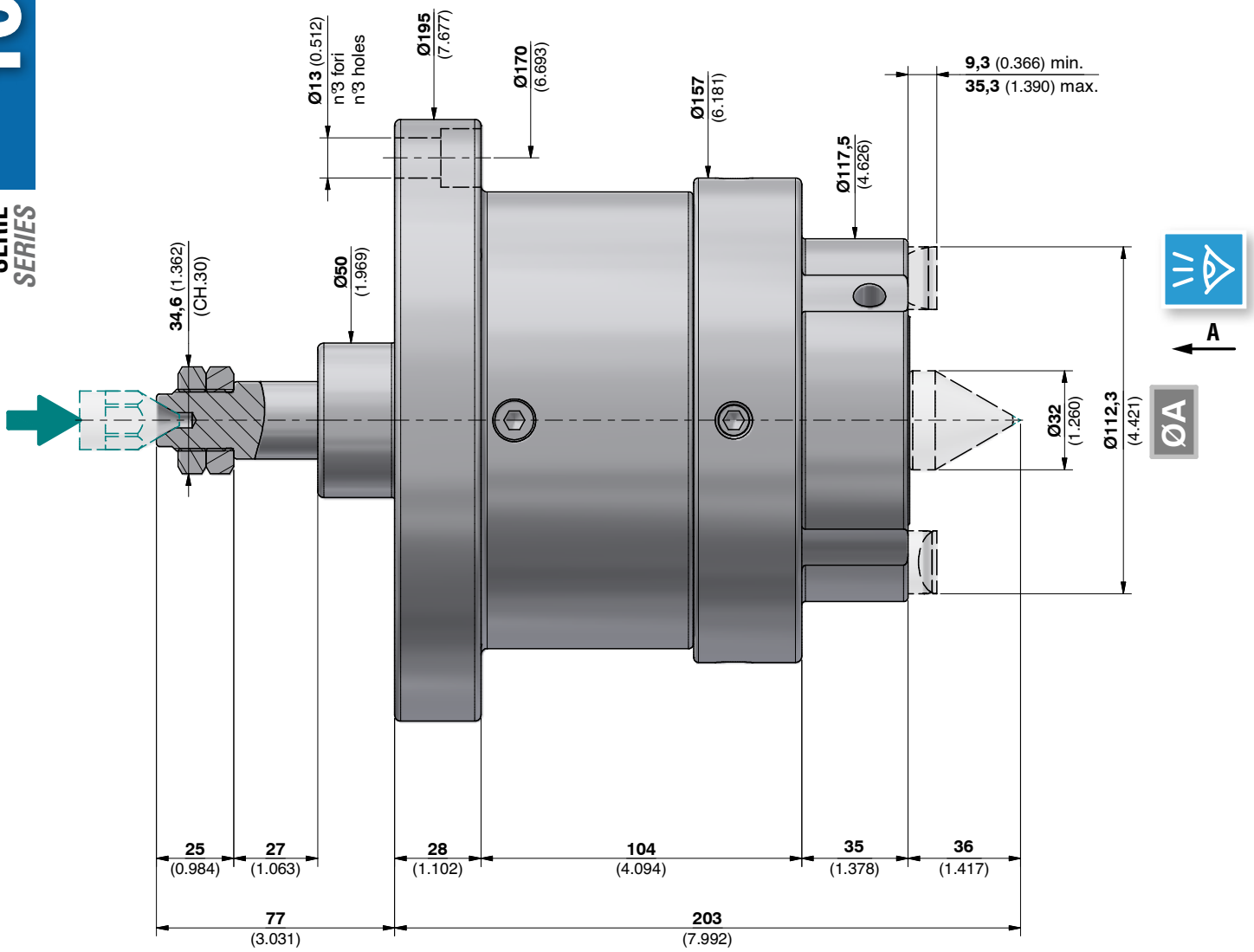
072920104

PUNTE CENTRALI A CAPRUGGINE
CENTER POINTS WITH SLOTS



	Dimensioni *Dimensions*		Per centri o fori *For centers or holes*	
	Ø A	Ø B	dal / *from* Ø	al / *to the* Ø
171713031	15 (0.591)	32 (1.260)	18 (0.709)	31 (1.220)
171713032	25 (0.984)	42 (1.654)	28 (1.102)	41 (1.614)
171713033	35 (1.378)	52 (2.047)	38 (1.496)	51 (2.008)
171713034	45 (1.772)	62 (2.441)	48 (1.890)	61 (2.402)
171713035	55 (2.165)	72 (2.835)	58 (2.283)	71 (2.795)

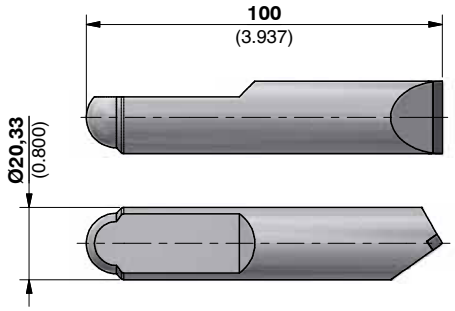
TRASCINATORE FRONTALE 100/300 VERSIONE FLANGIATA
FACE DRIVER 100/300 FLANGED VERSION



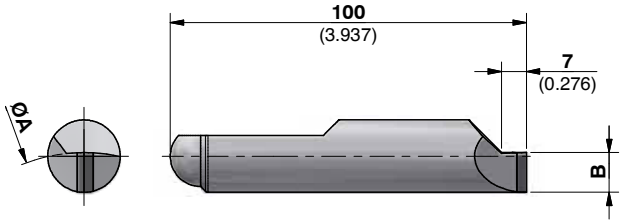
ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

070760046A

ARTIGLI
DRIVING PINS



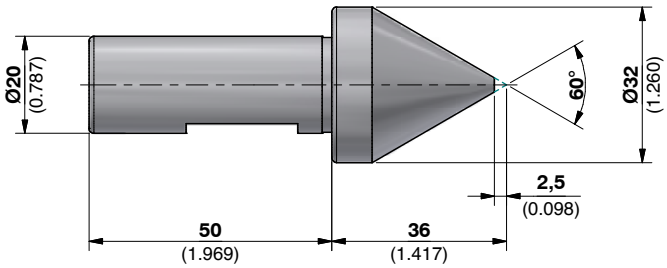
Antiorario *CCW*	
	Ø A
080920400	112,3 (4.421)



Antiorario *CCW*		
	Ø A	B
091920402	84 (3.307)	6,3 (0.248)
091920403	89 (3.504)	8,8 (0.346)
091920404	94 (3.701)	11,3 (0.445)
091920405	99 (3.898)	13,8 (0.543)

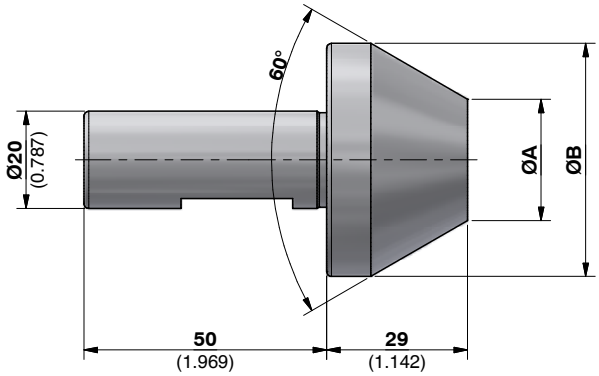
ØA **Diametro di presa degli artigli**
Clamping diameter of the driving pins

PUNTA CENTRALE
CENTER POINT



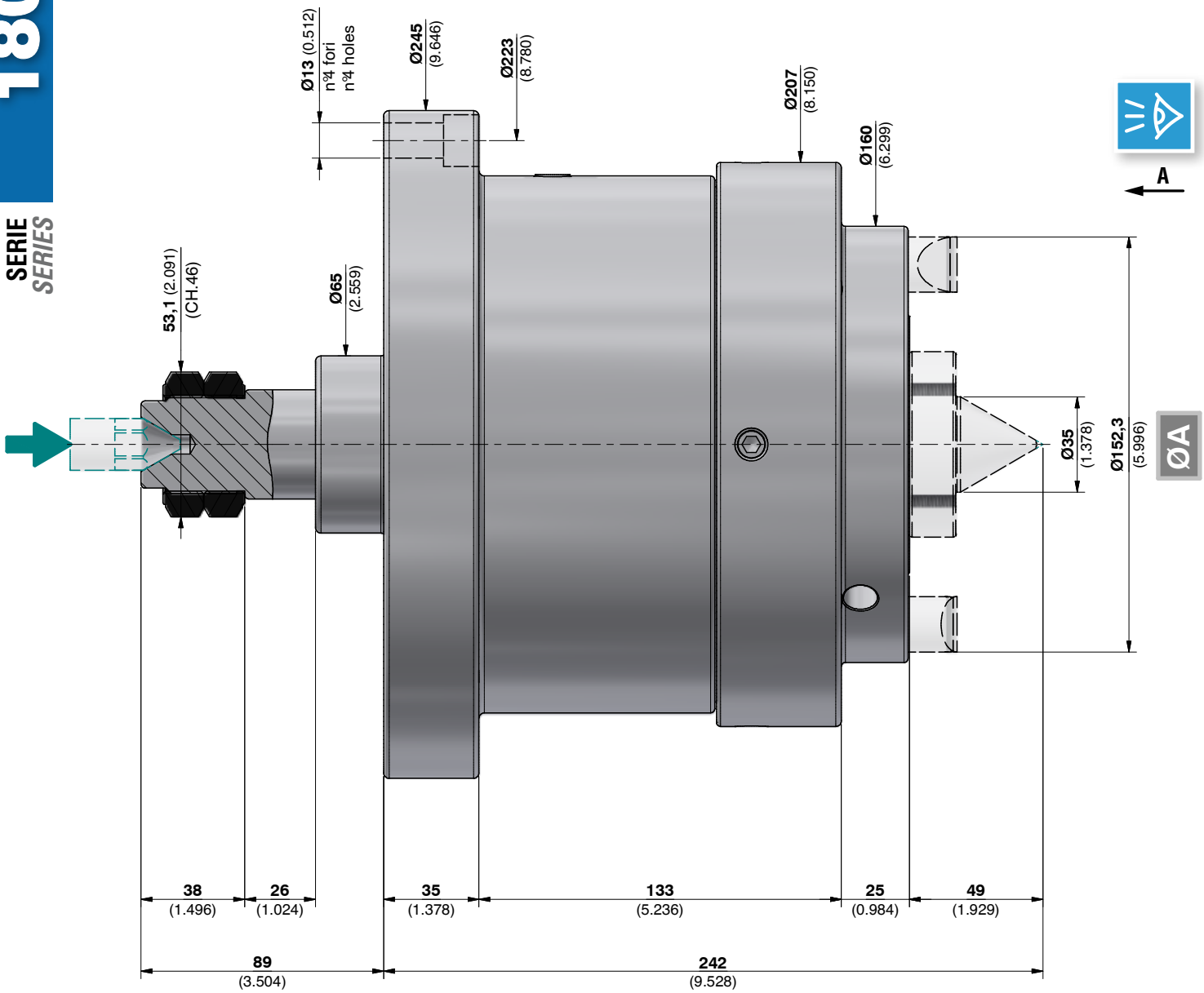
072102765

PUNTE CENTRALI A CAPRUGGINE
CENTER POINTS WITH SLOTS



	Dimensioni *Dimensions*		Per centri o fori *For centers or holes*	
	Ø A	Ø B	dal / *from* Ø	al / *to the* Ø
171714019	25 (0.984)	48 (1.890)	28 (1.102)	47 (1.850)
171714020	42 (1.654)	65 (2.559)	45 (1.772)	64 (2.520)
171714021	60 (2.362)	83 (3.268)	63 (2.480)	82 (3.228)
171714022	78 (3.071)	101 (3.976)	81 (3.189)	100 (3.937)

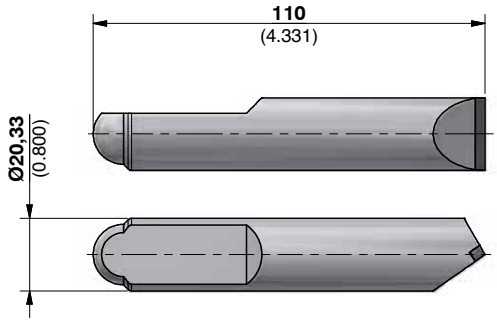
TRASCINATORE FRONTALE 180/400 VERSIONE FLANGIATA
FACE DRIVER 180/400 FLANGED VERSION



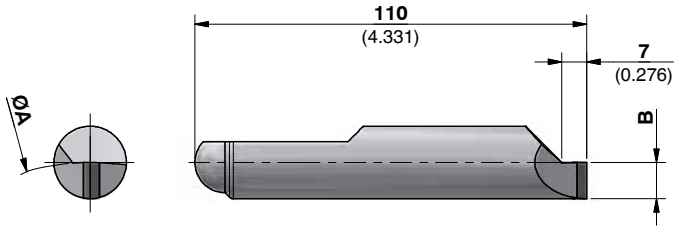
ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

070760051A

ARTIGLI
DRIVING PINS



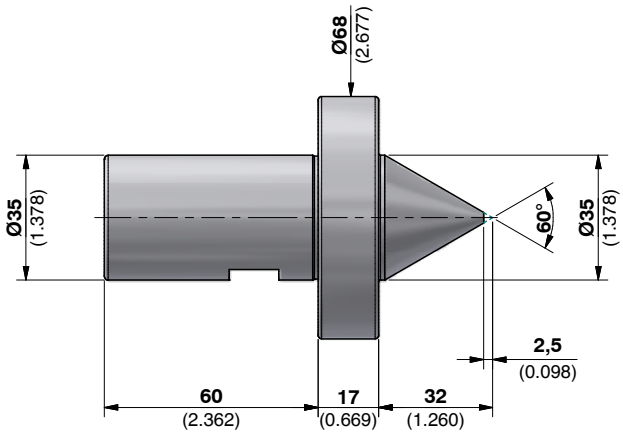
Antiorario *CCW*	
	Ø A
080920401	152,3 (5.996)



Disponibile su richiesta
Available on request

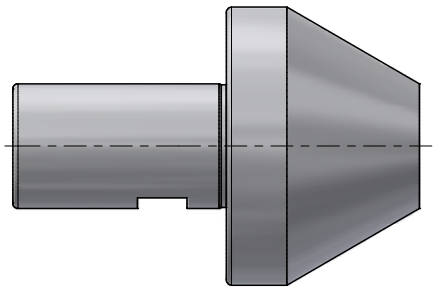
ØA **Diametro di presa degli artigli**
Clamping diameter of the driving pins

PUNTA CENTRALE
CENTER POINT



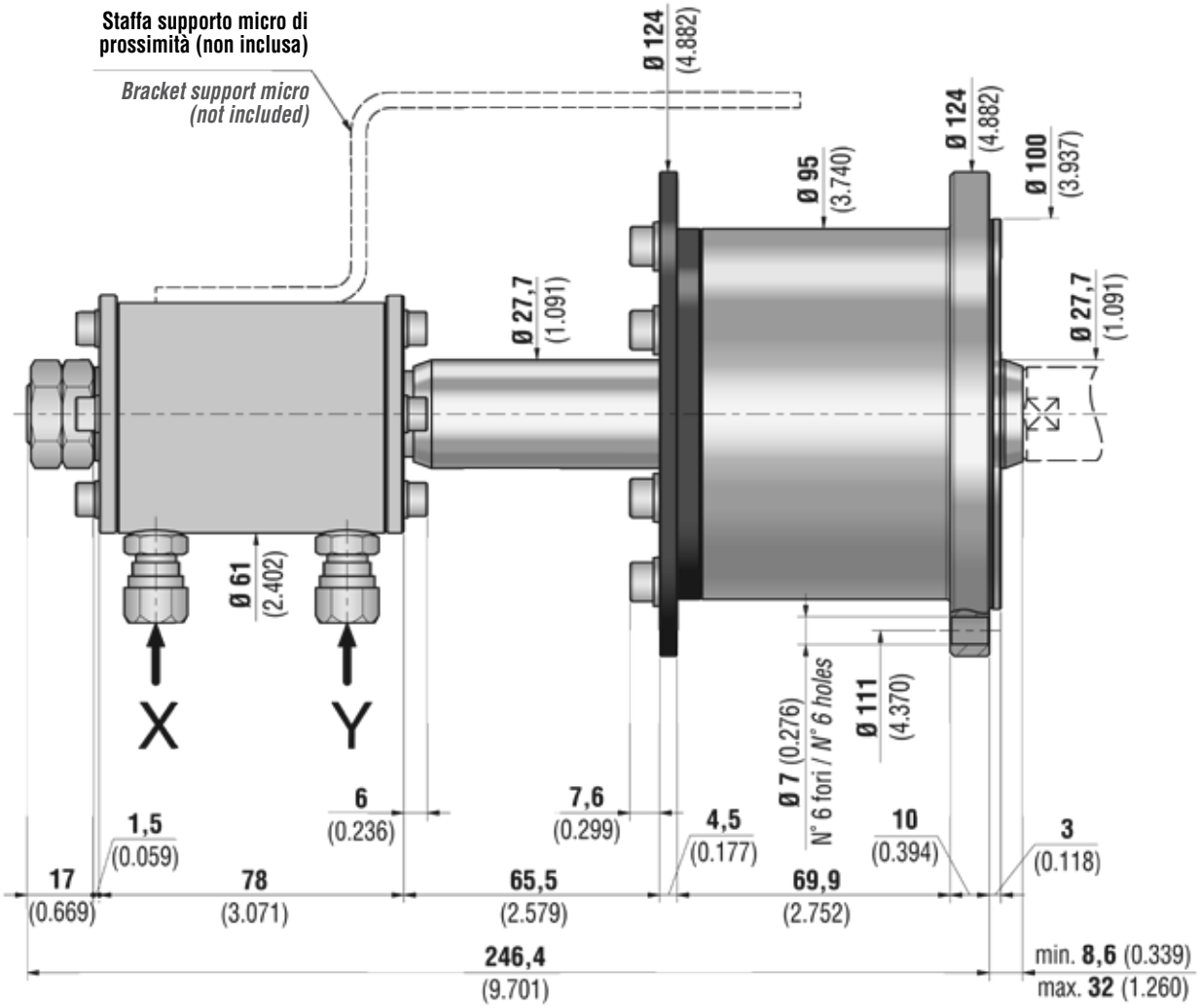
072102763

PUNTE CENTRALI A CAPRUGGINE
CENTER POINTS WITH SLOTS



Disponibile su richiesta
Available on request

CILINDRO IDRAULICO - PNEUMATICO
HYDRAULIC - PNEUMATIC CYLINDER



"X" **PISTONE AVANTI: Artigli in presa sul pezzo**
PISTON FORWARD: Driving pins clamping the workpiece

"Y" **PISTONE INDIETRO: Artigli disimpegnati**
PISTON BACKWARD: Driving pins decommited

Sezione utile del pistone *Piston cross section area*	**32,3 cm²**
Pressione massima consentita *Max. pressure allowed*	**30 bar**
Velocità massima *Max. speed*	**1.500 giri/min** *1,500 r.p.m.*

070920060

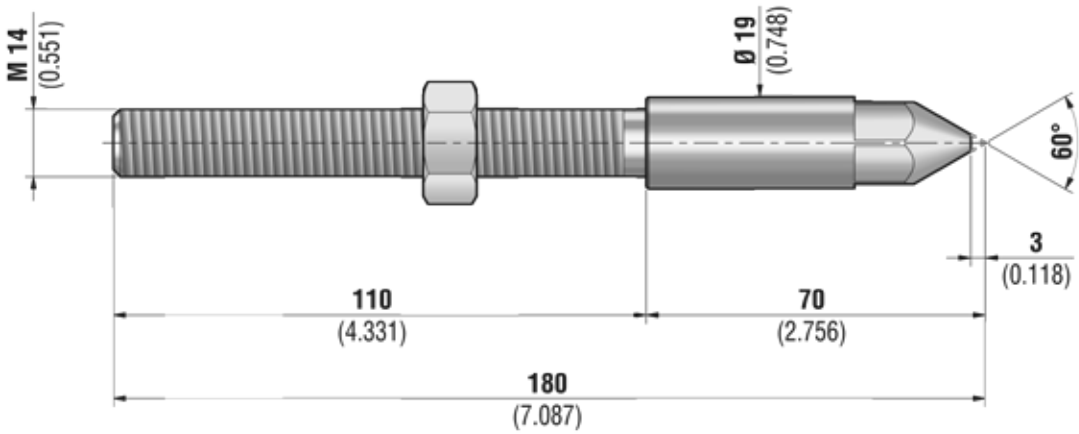
Pressioni utilizzabili con nostro cilindro cod. 070920060
Pressure that can be used with our cylinder code 070920060

p.s.i.	Bar	kg	lbs
58	4	130	290
72	5	165	360
87	6	195	435
101	7	230	500
116	8	260	580
130	9	300	650
145	10	330	725

	Kit guarnizioni di ricambio ***Seals replacement kit***
070920062	SU RICHIESTA / *ON REQUEST*

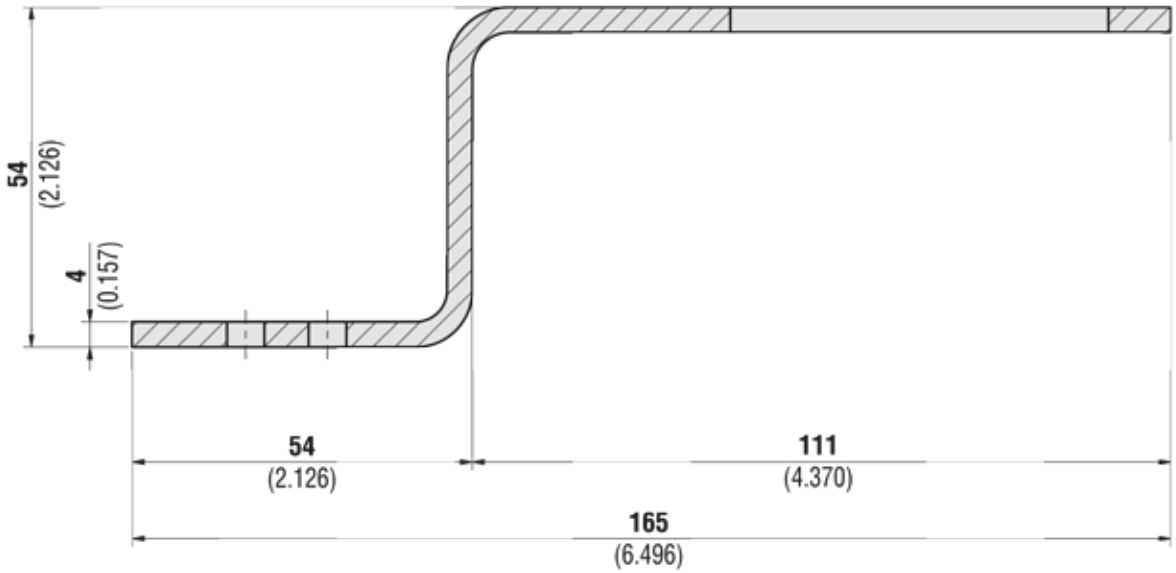
SPINTORE E STAFFA DI SUPPORTO MICRO DI PROSSIMITÀ PER CILINDRO IDRAULICO-PNEUMATICO
PUSHER AND BRACKET SUPPORT MICRO FOR HYDRAULIC - PNEUMATIC CYLINDER

SPINTORE
PUSHER



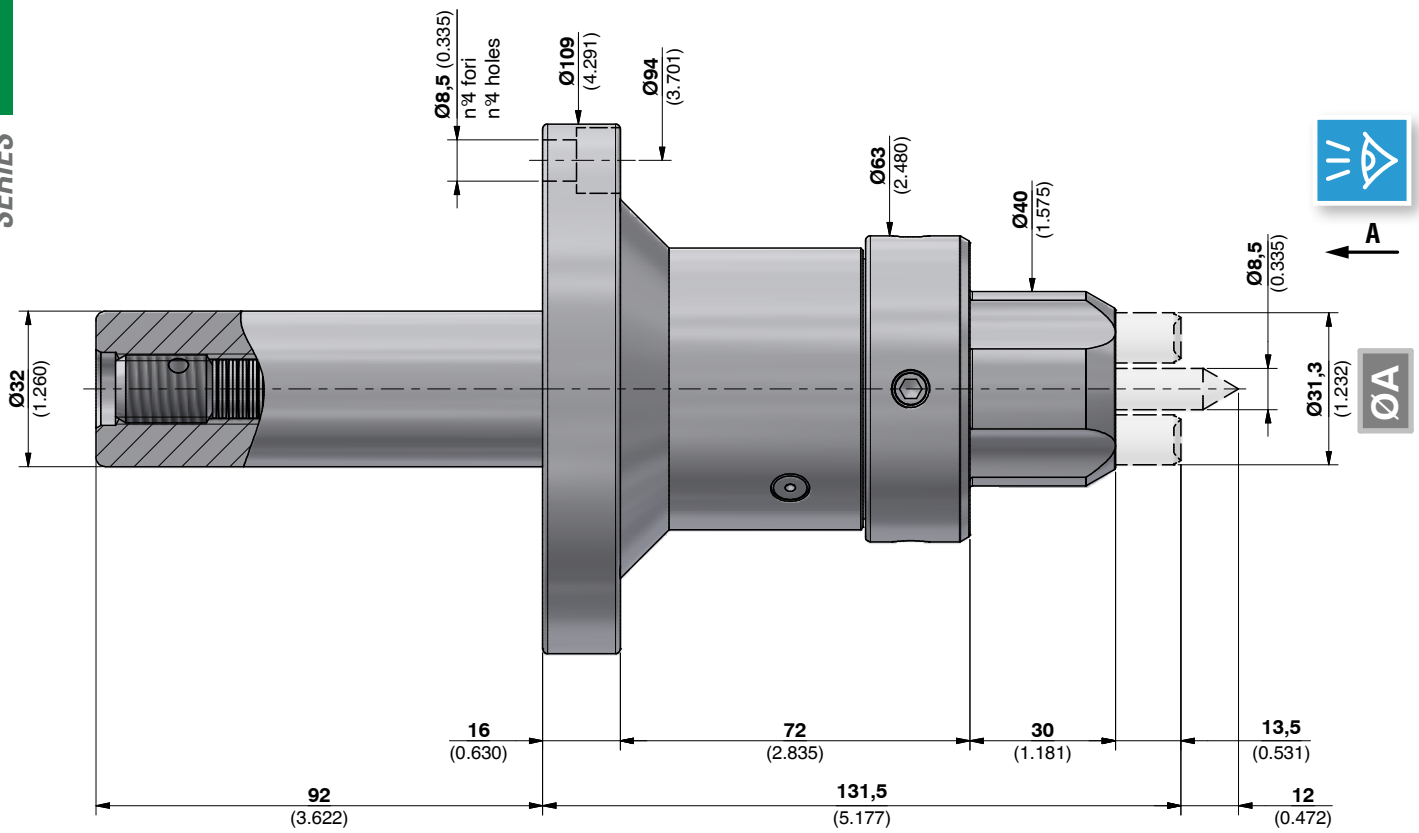
070920050

STAFFA DI SUPPORTO MICRO
BRACKET SUPPORT MICRO



070920061

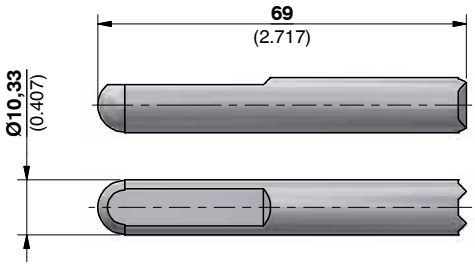
TRASCINATORE FRONTALE 15/55 VERSIONE FLANGIATA
FACE DRIVER 15/55 FLANGED VERSION



ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

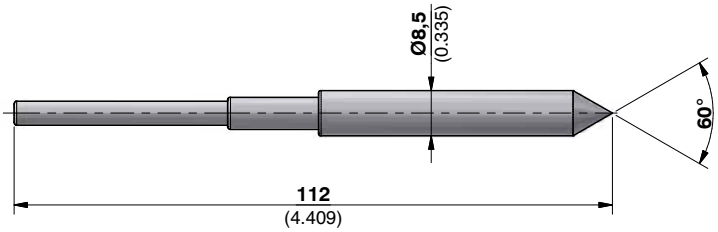
070752406A

ARTIGLI
DRIVING PINS



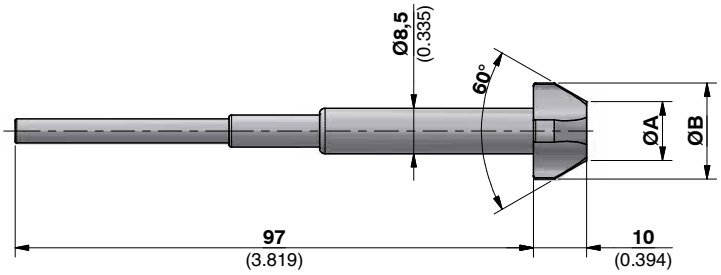
BIDIREZIONALI / *BIDIRECTIONAL*	
	Ø A
080809006	31,3 (1.232)

PUNTA CENTRALE
CENTER POINT



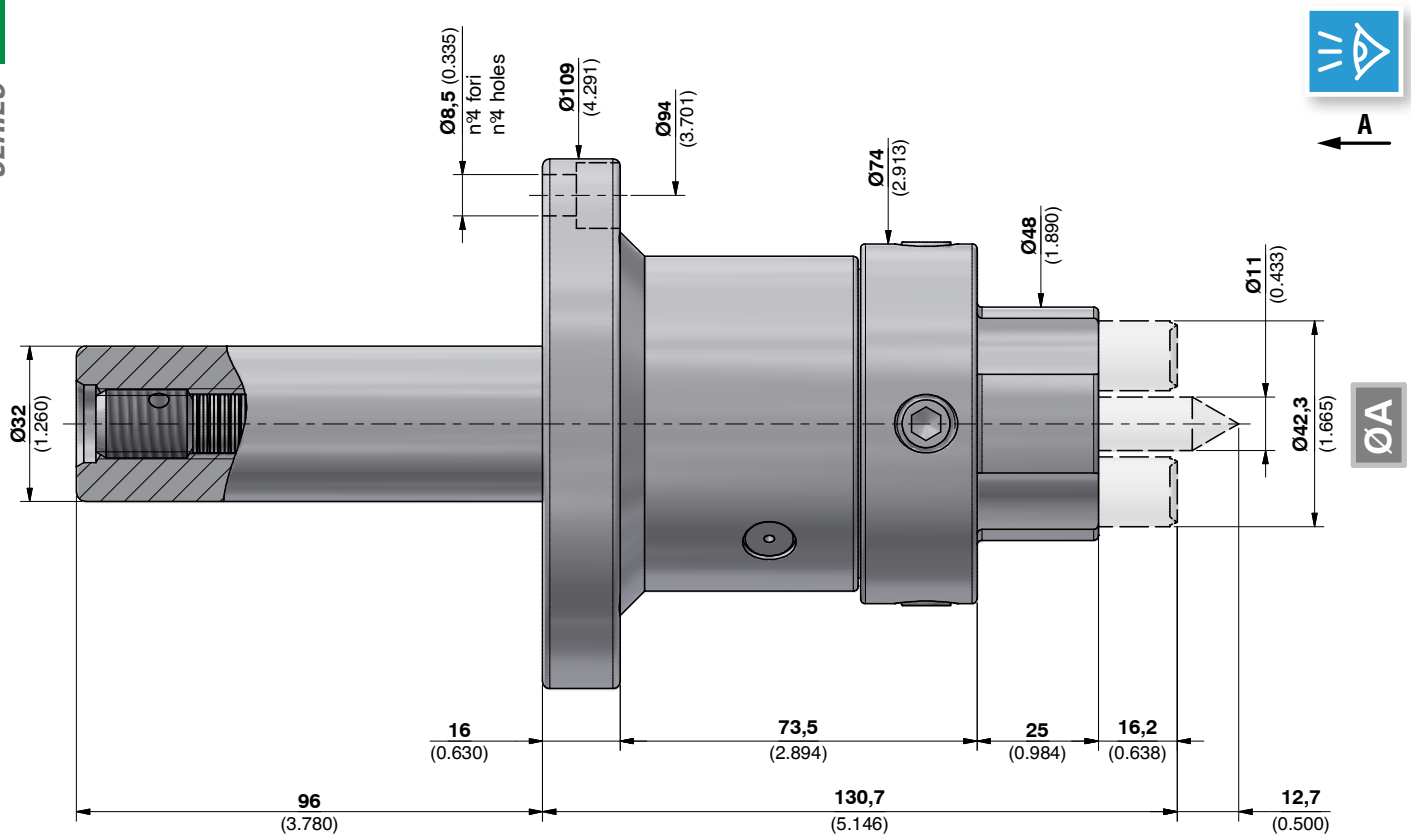
072102766

PUNTE CENTRALI A CAPRUGGINE
CENTER POINTS WITH SLOTS



	Dimensioni *Dimensions*		Per centri o fori *For centers or holes*	
	Ø A	Ø B	dal / *from* Ø	al / *to the* Ø
171711015	5 (0.197)	12 (0.472)	7,5 (0.295)	10,5 (0.413)
171711016	8 (0.315)	15 (0.591)	10,5 (0.413)	13,5 (0.531)
171711017	11 (0.433)	18 (0.709)	13,5 (0.531)	16,5 (0.650)
171711019	14 (0.551)	21 (0.827)	16,5 (0.650)	19,5 (0.768)
171711020	17 (0.669)	24 (0.945)	19,5 (0.768)	22,5 (0.886)
171711022	20 (0.787)	27 (1.063)	22,5 (0.886)	25,5 (1.004)

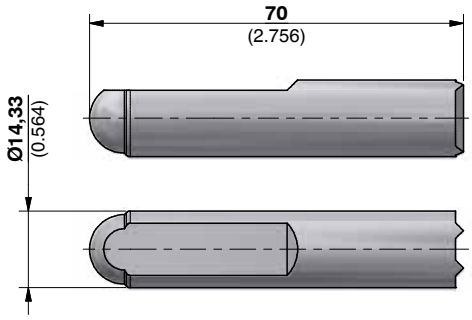
TRASCINATORE FRONTALE 20/70 VERSIONE FLANGIATA
FACE DRIVER 20/70 FLANGED VERSION



ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

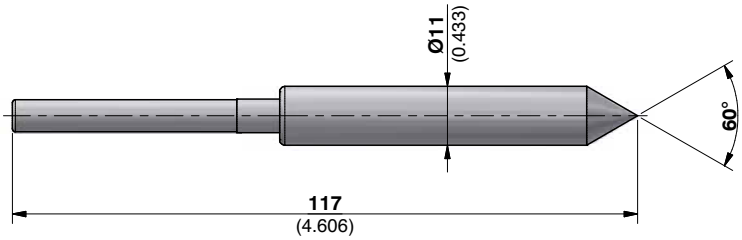
070760030A

ARTIGLI
DRIVING PINS



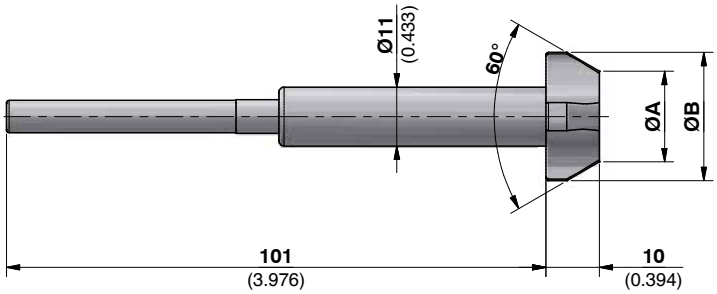
BIDIREZIONALI / *BIDIRECTIONAL*	
	Ø A
080809007	42,3 (1.665)

PUNTA CENTRALE
CENTER POINT



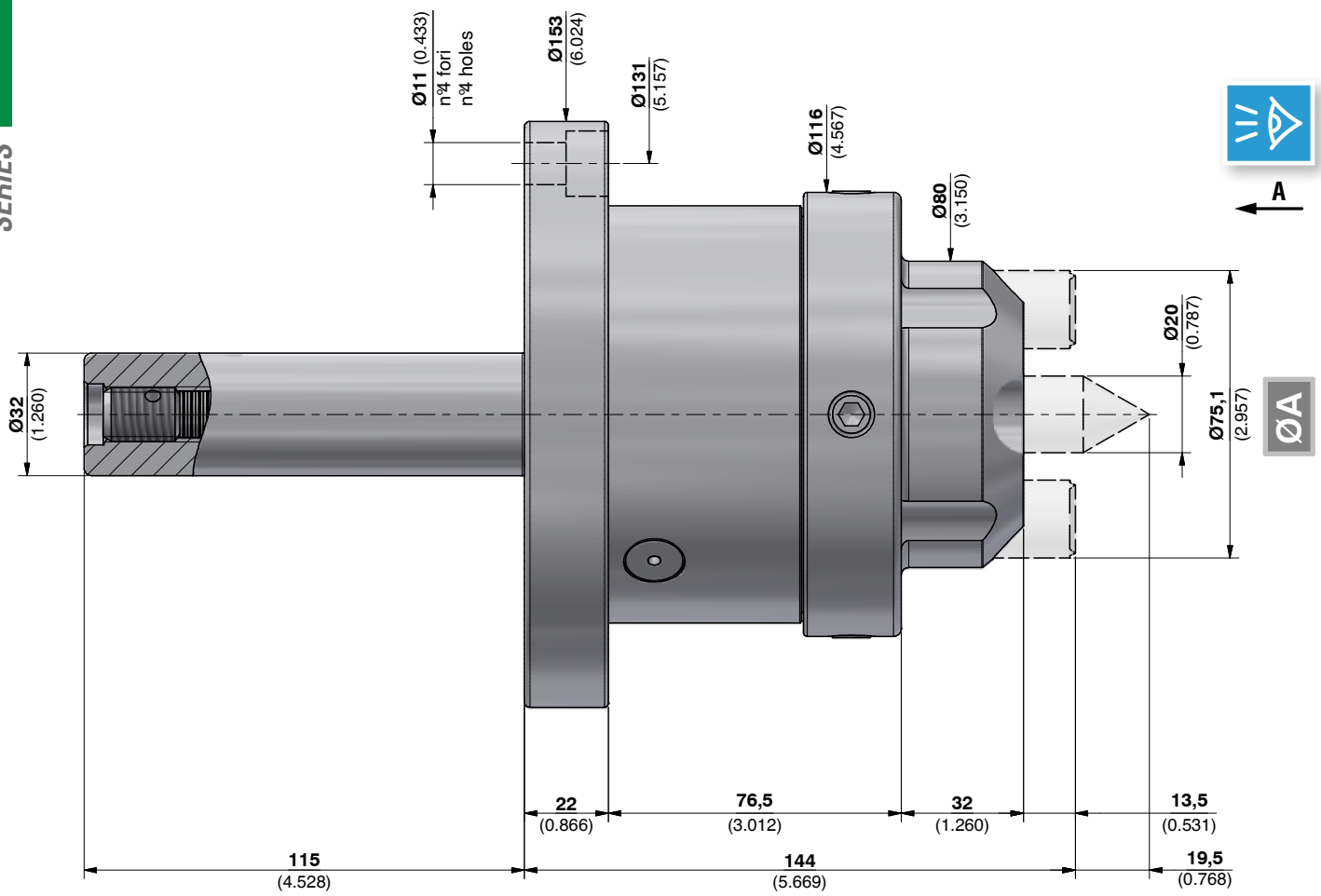
072102756

PUNTE CENTRALI A CAPRUGGINE
CENTER POINTS WITH SLOTS



	Dimensioni *Dimensions*		Per centri o fori *For centers or holes*	
	Ø A	Ø B	dal / *from* Ø	al / *to the* Ø
171712010	8 (0.315)	15 (0.591)	10,5 (0.413)	13,5 (0.531)
171712011	11 (0.433)	18 (0.709)	13,5 (0.531)	16,5 (0.650)
171712012	14 (0.551)	21 (0.827)	16,5 (0.650)	19,5 (0.768)
171712013	17 (0.669)	24 (0.945)	19,5 (0.768)	22,5 (0.886)
171712014	20 (0.787)	27 (1.063)	22,5 (0.886)	25,5 (1.004)
171712015	23 (0.906)	30 (1.181)	25,5 (1.004)	28,5 (1.122)
171712016	26 (1.024)	33 (1.299)	28,5 (1.122)	31,5 (1.240)
171712017	29 (1.142)	36 (1.417)	31,5 (1.240)	34,5 (1.358)

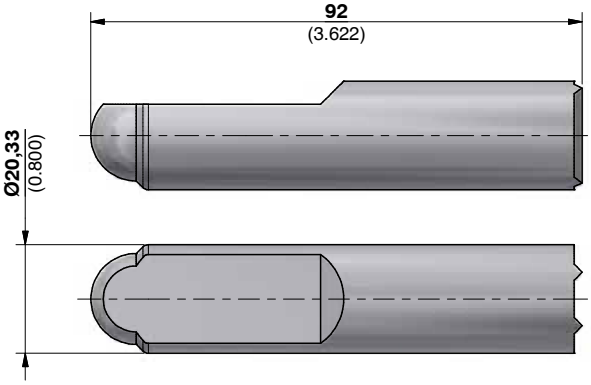
TRASCINATORE FRONTALE 45/120 VERSIONE FLANGIATA
FACE DRIVER 45/120 FLANGED VERSION



ATTENZIONE: Punta centrale e artigli NON SONO COMPRESI nel trascinatore.
ATTENTION: Center point and driving pins ARE NOT INCLUDED in the face driver.

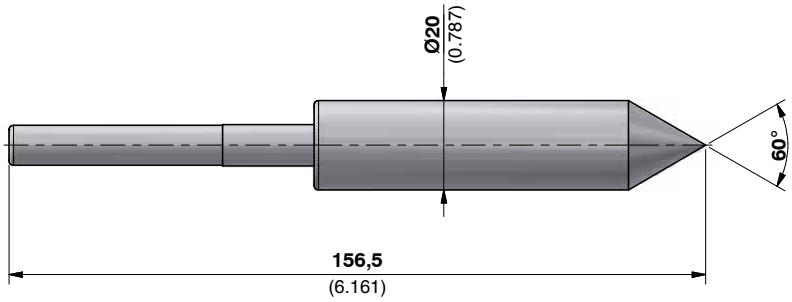
070760034A

ARTIGLI
DRIVING PINS



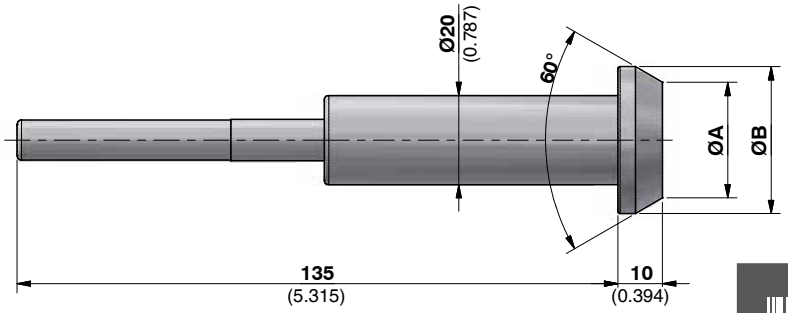
BIDIREZIONALI / *BIDIRECTIONAL*	
	Ø A
080809008	75,1 (2.957)

PUNTA CENTRALE
CENTER POINT



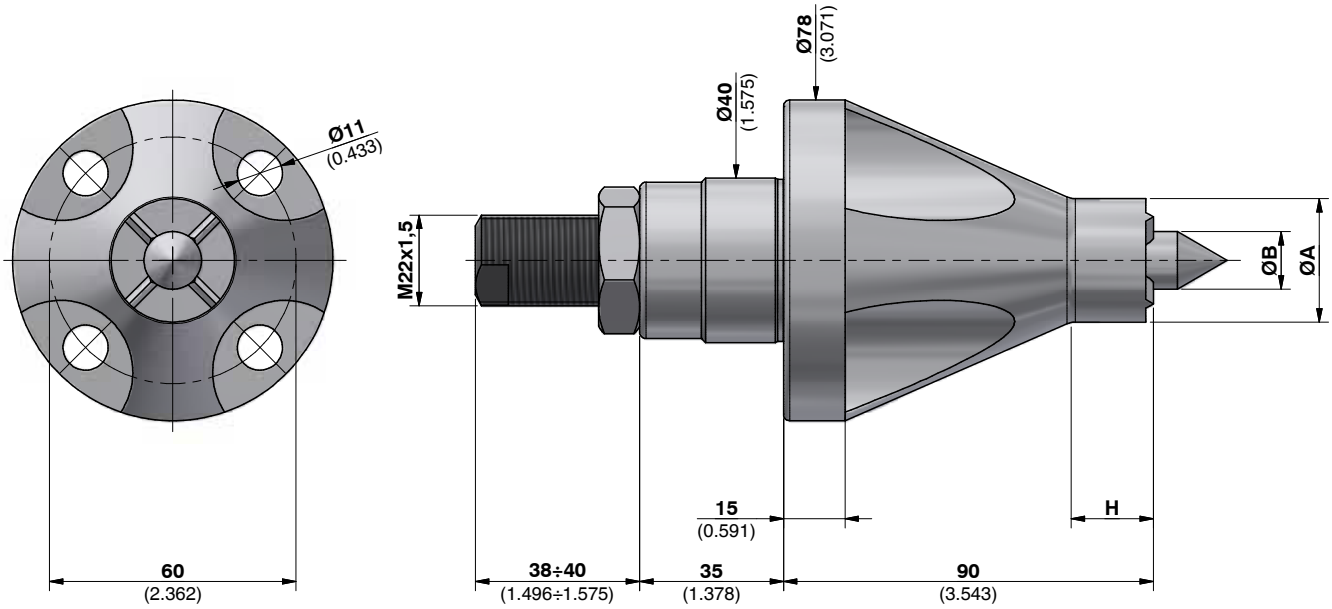
072102758

PUNTE CENTRALI A CAPRUGGINE
CENTER POINTS WITH SLOTS

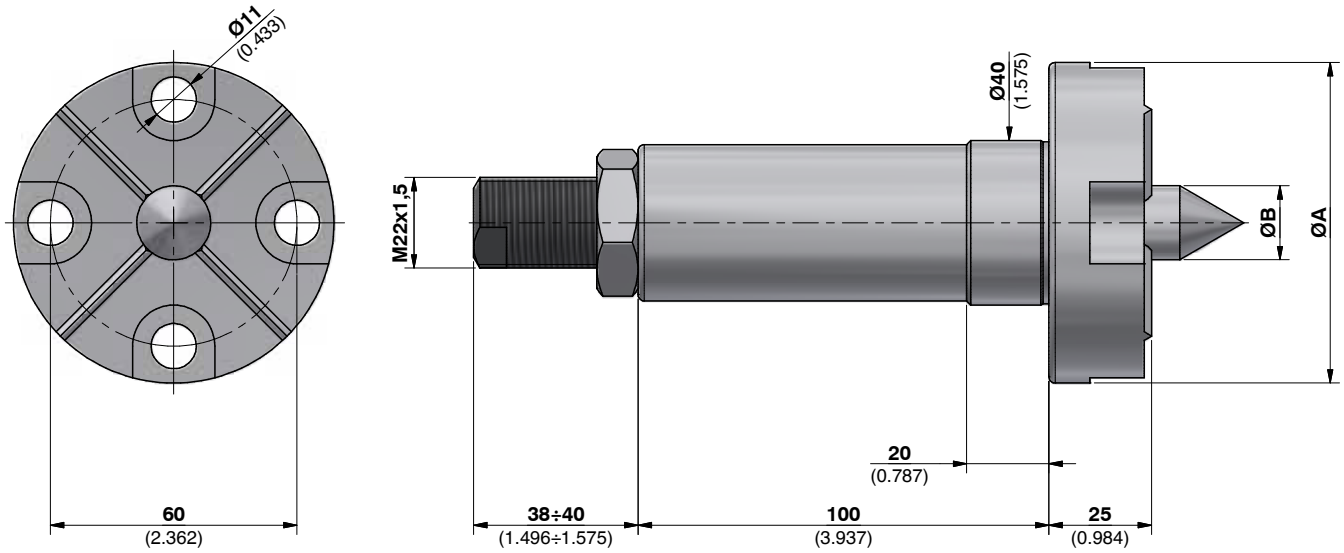


	Dimensioni *Dimensions*		Per centri o fori *For centers or holes*	
	Ø A	Ø B	dal / *from* Ø	al / *to the* Ø
171713020	14 (0.551)	21 (0.827)	16,5 (0.650)	19,5 (0.768)
171713021	17 (0.669)	24 (0.945)	19,5 (0.768)	22,5 (0.886)
171713022	20 (0.787)	27 (1.063)	22,5 (0.886)	25,5 (1.004)
171713023	23 (0.906)	30 (1.181)	25,5 (1.004)	28,5 (1.122)
171713024	26 (1.024)	33 (1.299)	28,5 (1.122)	31,5 (1.240)
171713025	29 (1.142)	36 (1.417)	31,5 (1.240)	34,5 (1.358)
171713026	32 (1.260)	39 (1.535)	34,5 (1.358)	37,5 (1.476)
171713027	35 (1.378)	42 (1.654)	37,5 (1.476)	40,5 (1.594)
171713028	38 (1.496)	45 (1.772)	40,5 (1.594)	43,5 (1.713)
171713029	41 (1.614)	48 (1.890)	43,5 (1.713)	46,5 (1.831)
171713030	44 (1.732)	51 (2.008)	46,5 (1.831)	49,5 (1.949)

TRASCINATORE A DENTI FISSI PER DENTATRICI
FACE DRIVER WITH FIXED TEETH FOR GEAR CUTTING MACHINES



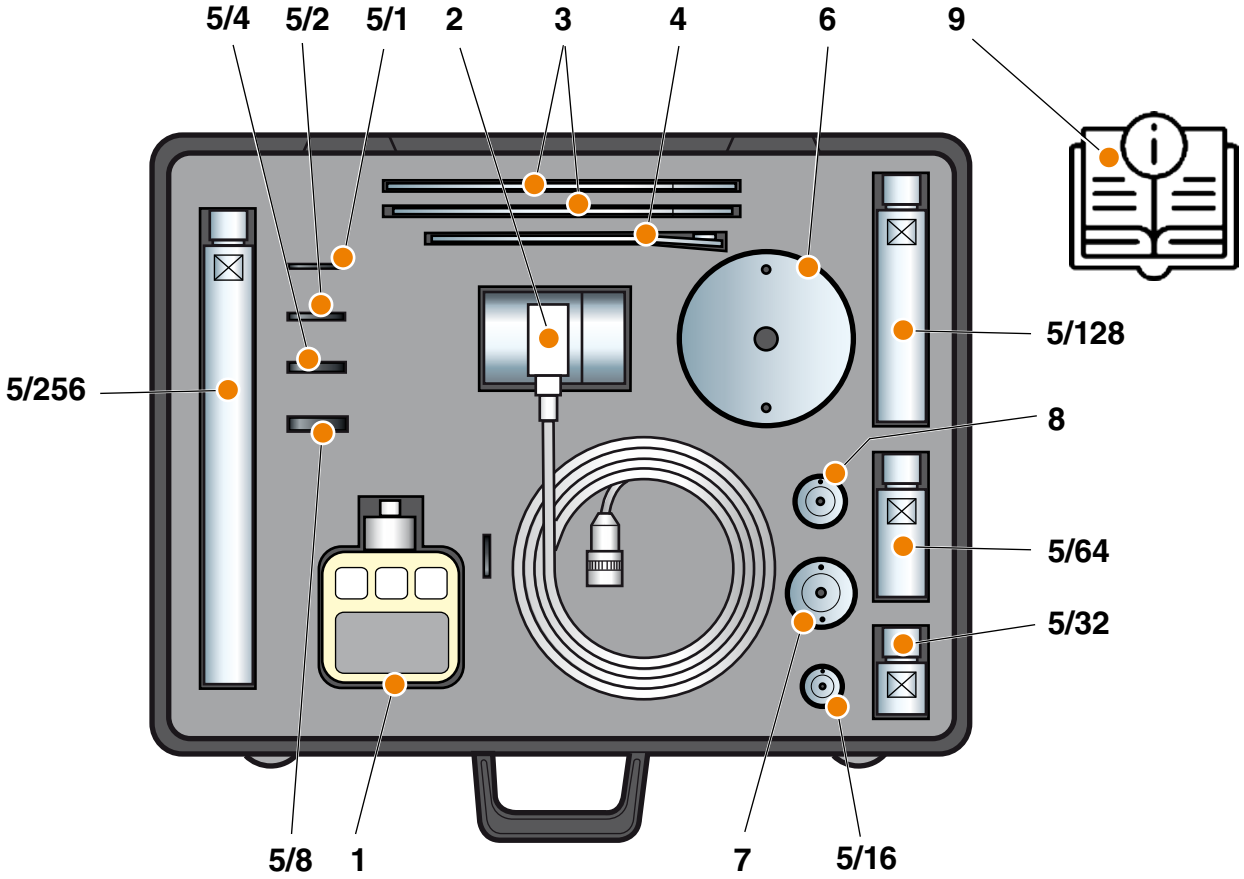
	TRASCINATORI A DENTI FISSI *FACE DRIVERS WITH FIXED DRIVING TEETH*		
	Ø A	Ø B	H
060600451	13 (0.512)	6 (0.236)	15 (0.591)
060600452	20 (0.787)	8 (0.315)	20 (0.787)
060600456	30 (1.181)	14 (0.551)	20 (0.787)
060600453	40 (1.575)	18 (0.709)	20 (0.787)



	TRASCINATORI A DENTI FISSI *FACE DRIVERS WITH FIXED DRIVING TEETH*	
	Ø A	Ø B
060600454	78 (3.071)	8 (0.315)
060600455	78 (3.071)	18 (0.709)

VALIGETTA CELLA DI CARICO PER IL CONTROLLO SPINTA ASSIALE SU MACCHINE UTENSILI
BAG - LOAD CELL FOR CHECKING AXIAL THRUST ON MACHINE TOOLS

DISPOSIZIONE CONTENUTO VALIGETTA
DISPOSITION OF THE CONTENTS IN THE BAG

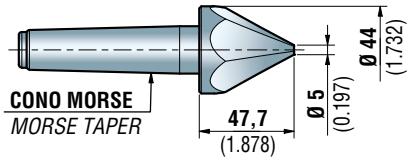


105090303

Q.tà / *Q.ty*	Descrizione / ***Description***	Posizione / ***Position***
1	Dinamometro elettronico digitale / *Digital electronic Dynamometer*	1
1	Cella di carico per dinamometro digitale / *Load cell for digital dynamometer*	2
2	Chiavi aperte mm 27 / *Fork wrenches mm 27*	3
1	Chiave a compasso / *Torque wrench*	4
1	Serie binaria di distanziali 1.2.4.8.16.32.64.128. 256 / *Bynary range of sleeves*	5/1.2.....256
1	Tappo centratore lato trascinatore Ø 100 / *Centered cap face driver side Ø 100*	6
1	Tappo centratore lato trascinatore Ø 40 / *Centered cap face driver side Ø 40*	7
1	Tappo centratore lato contropunta Ø 30 / *Centered cap live center Ø 30*	8
1	Libretto di istruzioni / *Instruction book*	9

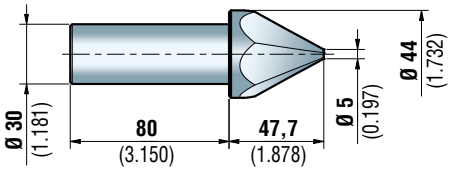
TRASCINATORI PER TUBI
DRIVER FOR PIPES

TRASCINATORE PER TUBI CON ATTACCO CONO MORSE PER FORI DA Ø7 A Ø 40
DRIVER FOR PIPES WITH MORSE TAPER FITTING FOR HOLES FROM Ø7 (0.276) TO Ø40 (1.575)



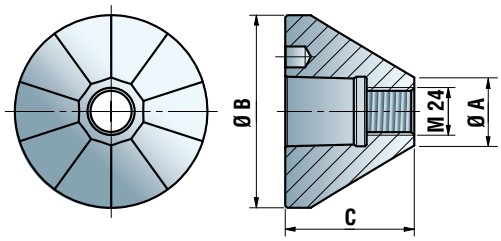
		N° FACCE *N° OF FACES*
050528002	CM2 / MT2	6
050528103	CM3 / MT3	6
050528204	CM4 / MT4	6
050528305	CM5 / MT5	6

TRASCINATORE PER TUBI CON ATTACCO CILINDRICO PER FORI DA Ø 7 A Ø 40
DRIVER FOR PIPES WITH CYLINDRICAL SHANK FROM Ø 7 (0.276) TO Ø 40 (1.575)



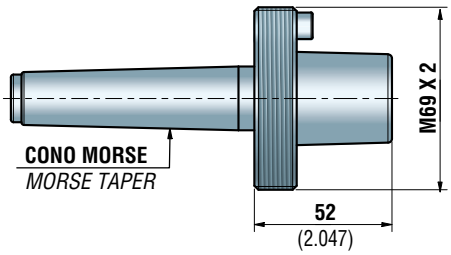
	N° FACCE *N° OF FACES*
050528000	6

TRASCINATORE PER TUBI PER FORI DA Ø 40 A Ø 245
DRIVER FOR PIPES FOR HOLES FROM Ø40 (1.575) TO Ø 245 (9.646)



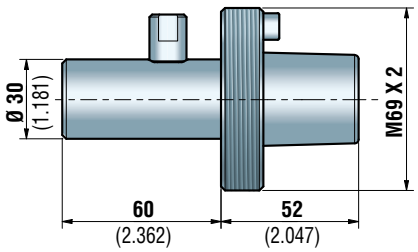
	Ø A	Ø B	C	N° FACCE *N° OF FACES*
050500284	37 (1.457)	97 (3.819)	65 (2.559)	10
050500285	95 (3.740)	147 (5.787)	60 (2.362)	15
050500286	145 (5.709)	197 (7.756)	60 (2.362)	15
050500287	195 (7.677)	247 (9.724)	67 (2.638)	15

GAMBO CONO MORSE PORTA TRASCINATORE PER TUBI
SUPPORT SHANK WITH MORSE TAPER FITTING FOR PIPE DRIVERS



050500702	CM2 / MT2
050500703	CM3 / MT3
050500704	CM4 / MT4
050500705	CM5 / MT5

GAMBO CILINDRICO PORTA TRASCINATORE PER TUBI
CYLINDRICAL SUPPORT SHANK FOR PIPE DRIVERS



050500700

MANUTENZIONE
MAINTENANCE

- Per la manipolazione del trascinatore si raccomanda di utilizzare sempre guanti protettivi per proteggersi dalla lama degli artigli e dalla punta centrale.

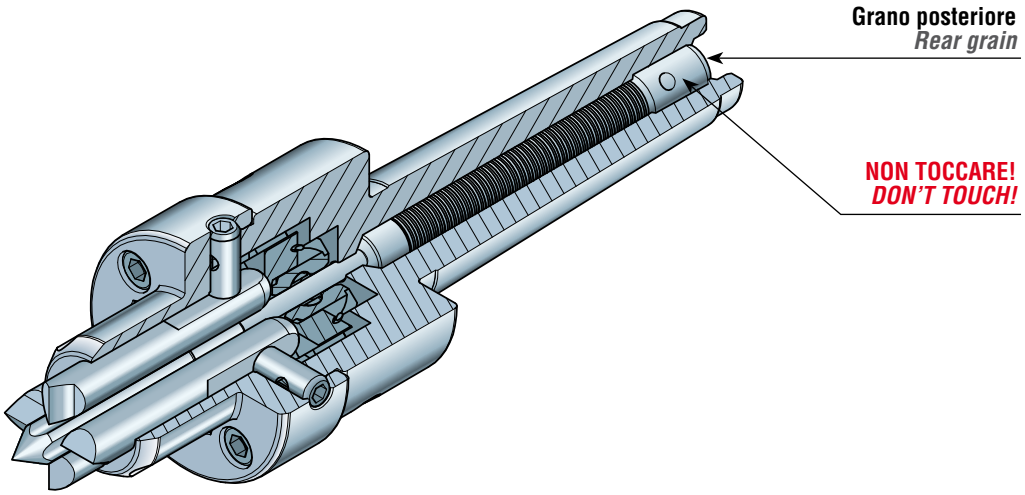
- Fare manutenzione al trascinatore frontale non è indispensabile, dato che il sistema è completamente meccanico.
  Consigliamo ogni circa 400 ore di lavorazione, di procedere all'estrazione degli artigli di trascinamento e della punta centrale e di verificarne la perfetta efficienza. Suggeriamo di ingrassarli, così da creare una sottile pellicola, tale da impedire all'acqua emulsionata di entrare all'interno del corpo trascinatore.

- Il grano posteriore presente nei trascinatori frontali (versioni con punta centrale molleggiata), ha la funzione di tenere precaricate le molle a tazza presenti all'interno. Questa regolazione viene fatta in fase di montaggio e quindi NON deve mai essere toccato.

- *When handling the face driver, it is recommended to always use protective gloves to protect yourself from the blade of the driving pins and the center point.*

- *Making maintenance to the face driver is not essential since the system is completely mechanical.*
  We recommend every 400 working hours, to proceed with the extraction of the driving pins and the center point and verify their perfect efficiency. We suggest greasing them, so as to create a thin film, such as to prevent the emulsified water from entering on the face driver body.

- *The rear grain present in the face drivers (versions with spring-loaded center point), has the function of keeping the belleville present inside preloaded. This adjustment is made during assembly and therefore it must NEVER be touched.*



- È necessario monitorare lo stato di affilatura degli artigli. L'usura degli artigli in un trascinatore frontale è molto difficile da quantificare in ore di lavoro o in pezzi lavorati. I differenti materiali da lavorare, parametri di lavoro, ecc., rendono quasi impossibile dare un'informazione precisa su ogni quanto tempo bisogna affilare gli artigli. Possiamo comunque dire che, per chi cambia spesso tipologia di lavoro, la decisione su quando effettuare l'affilatura degli artigli è da valutare visivamente, guardando la lama (presenza di un po' di piano sul tagliente o qualche scheggiatura) ed il pezzo appena finito di lavorare.
  Se le 4 incisioni lasciate dal trascinatore non sono dritte, ma leggermente aperte (a ventaglio), è bene procedere ad una affilatura e, in queste condizioni, è sufficiente di pochi decimi di millimetro. Per chi, invece, ha serie di pezzi molto numerose, sarà sufficiente segnarsi le prime volte il numero di pezzi lavorati, prima di arrivare all'usura sopracitata.

- Si possono eseguire affilature su un artiglio di un trascinatore frontale, fino a che non abbiamo accorciato la lama di 3 mm. Oltre non è consigliabile procedere, per non andare a pregiudicare la corsa della punta centrale. Durante l'operazione di affilatura, fare molta attenzione a non scaldare la lama.

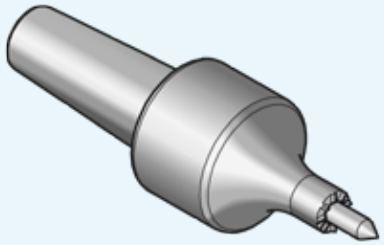
- *It is necessary to monitor the state of sharpness of the driving pins. The wear of the driving pins in a face driver is very difficult to quantify in hours worked or in machined parts.*
  The different materials to be machined, working parameters, etc., make it almost impossible to give precise information on how often the driving pins need to be sharpened. We can however say that, for those who often change type of work, the decision on when to sharpen the driving pins is to be evaluated visually, looking at the blade (presence of a little flat on the cutting edge or some chipping) and the workpiece just finished working.
  If the 4 incisions left by the face driver are not straight, but slightly open (fan-shaped), it is advisable to sharpen and, in these conditions, a few tenths of a millimeter are sufficient.
  For those, however, has very numerous series of pieces, it will be sufficient to mark the number of pieces processed the first few times, before reaching the aforementioned wear.

- *You can sharpen a driving pin of a face driver, until we have shortened the blade by 3 mm. It is not advisable to proceed further, in order not to affect the stroke of the center point. During the sharpening operation, be very careful not to heat the blade.*

TRASCINATORI FRONTALI SPECIALI
SPECIAL FACE DRIVERS

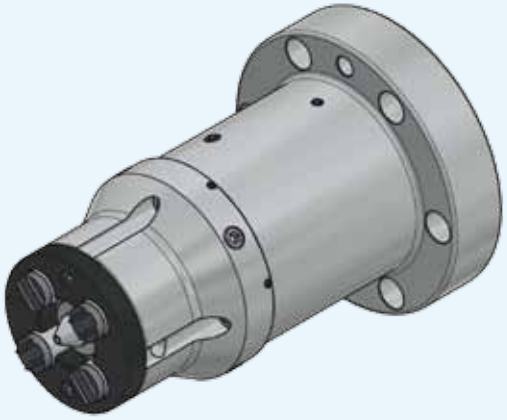
TRASCINATORE SPECIALE A DENTI FISSI CON PRESA Ø6
PER LAVORAZIONI DI DENTATURA

SPECIAL FIXED TEETH FACE DRIVERS WITH CLAMPING Ø6 FOR GEAR CUTTING OPERATIONS



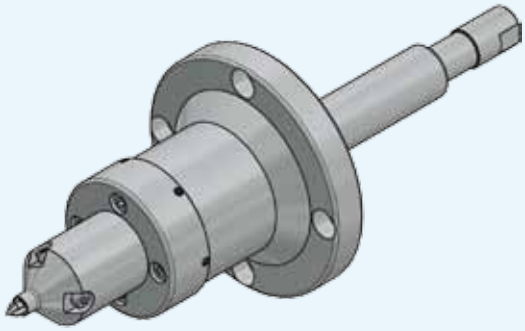
TRASCINATORE AD AZIONAMENTO IDRAULICO CON
PUNTA INTEGRALE ED ARTIGLI IN CLASSE PRECISA PER
APPLICAZIONI DI RETTIFICA DENTI

FACE DRIVER HYDRAULIC OPERATED WITH INTEGRAL CENTER POINT AND DRIVING PINS IN PRECISE CLASS FOR GEAR GRINDING APPLICATIONS



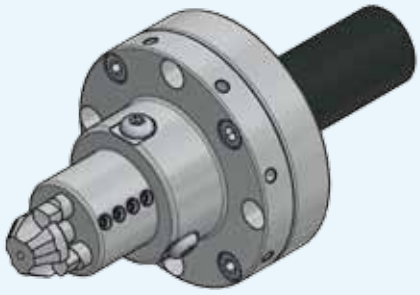
TRASCINATORE DA RETTIFICA CON PUNTA INTEGRALE
Ø6, ADATTO ALLA LAVORAZIONE DI PEZZI CON PRESE
DIAMETRALI MOLTO RIDOTTE

FACE DRIVER FOR GRINDING APPLICATION, WITH INTEGRAL CENTER POINT Ø6, SUITABLE FOR MACHINING WORKPIECES WITH VERY REDUCED CLAMPING DIAMETER

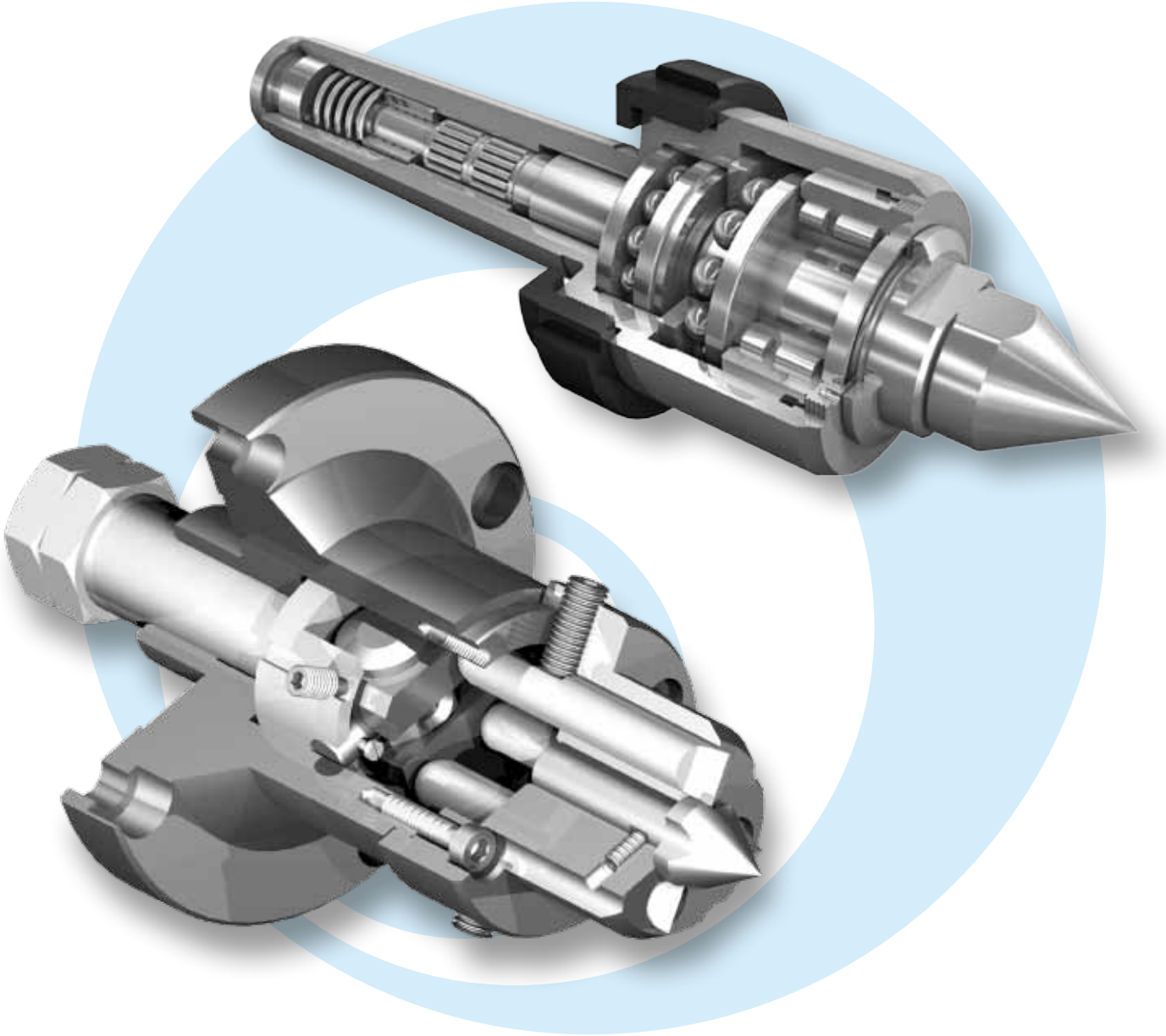


TRASCINATORE AD AZIONAMENTO A MOLLE DOTATO DI
PUNTA CENTRALE A TRE SETTORI DI CONTATTO, ARTIGLI CON
ELETTRODEPOSITO IN DIAMANTE E CANNOTTO
PORTA MOLLE ASPORTABILE

FACE DRIVER OPERATED BY SPRINGS, EQUIPPED WITH CENTER POINT WITH THREE CONTACT SECTOR, DRIVING PINS WITH ELECTROPLATED DIAMOND AND REMOVABLE SPRINGS HOLDER SLEEVE



FRB crea TRASCINATORI FRONTALI progettati su specifiche del cliente!
FRB creates FACE DRIVERS specifically designed for the customer!



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+39 051 846760

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Via Cá Belfiore, 16
40037 Borgonuovo di Sasso Marconi (BO) Italy

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