



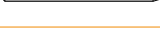
STANDARD PARTS FOR MOULDS

FÜHRUNGSELEMENTE

*ELEMENTI NORMALIZZATI
PER STAMPI*




MADE IN ITALY

	CM	RANGE EXTENSION	25		CAMI	NEW MODEL	70
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BEP
BEPA
BEPA PLUS

ITALIAN STD.  92

ISO 9448-6  47

ISO 9448-6  48



BEPA PLUS ONLY

Induction hardened steel
for improved protection

Induktionsgehärteter Stahl
für verbesserten Schutz

Acciaio temprato ad induzione
per maggiore protezione

Optimized bronze thickness
for greater durability

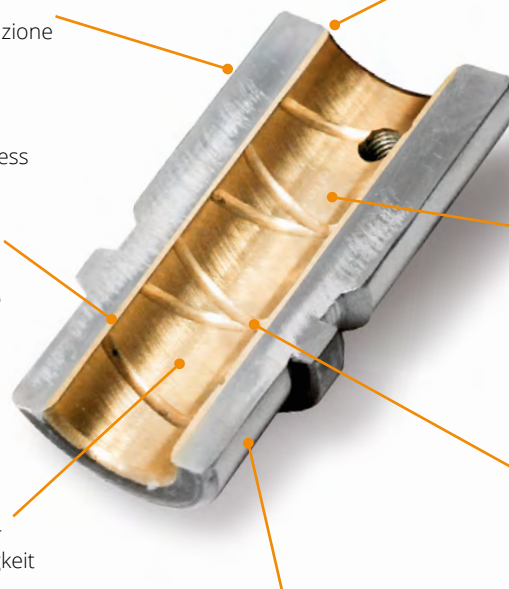
Optimierte Bronzedicke
für längere Haltbarkeit

Spessore del bronzo
ottimizzato per maggiore
durabilità

Honed bore for greater
guiding accuracy

Geschliffene Bohrung für
höhere Führungsgenauigkeit

Foro levigato per maggiore
precisione di guida



End desing for easy assembly

Besondere Einlaufgeometrie

für eine einfachere Montage

Design dell'estremità per un
facile imbocco

High quality of bronze
layer for improved guiding

Hochwertige Bronzeschicht
für verbesserte Führung

Alta qualità dello strato
di bronzo per una
migliore guida

HV ≥ 110

Improved lubricating
grooves for longer lasting

Verbesserte Schmierrillen
für längere Lebensdauer

Canali di lubrificazione
migliorati per una
maggiore durata

BEP, BEPA and BEPA PLUS

Induction hardened steel for multiple
no wear fits

Induktionsgehärteter Stahl zur mehrmaligen
Montage ohne Verschleiß und Abnutzung

Acciaio temprato ad induzione per piantaggi
multipli senza usura

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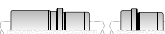
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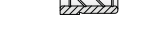
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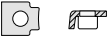
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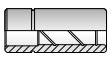
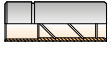
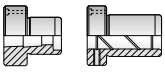
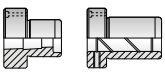
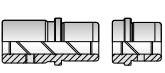
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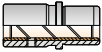
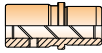
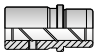
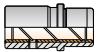
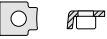
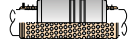
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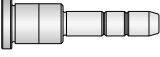
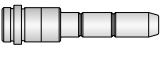
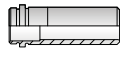
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ITALIA

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ENS' CUSTOM-MADE PRODUCTS

TURNING, MILLING, GRINDING AND LAPPING

DREHEN, FRÄSEN, SCHLEIFEN UN LÄPPEN | TORNITURA, FRESATURA, RETTIFICA E LAPPATURA



Products made on customer's demand and drawing to satisfy applications where standards are not the option.

Turning, milling, grinding and lapping to manufacture products with unique quality features.

Flexibility, short delivery times and co-design are the pillars on which ENS bases its service to customers.

MATERIALS	TREATMENTS AND COATINGS	DIMENSIONS (MM)	
Carbon steels	Induction hardening	Diameter	min 9 max 200
Alloy steels	Integral hardening		
Stainless steels	Case hardening		
Bronze	Gas nitriding		
Others on demand	Tenifer	Length	max 1500
	DLC coating		
	Others on demand		

Produkte, die nach Kundenwunsch und Zeichnung hergestellt werden, damit Anwendungen zu erfüllen, bei denen Standards nicht in Frage kommen.

Drehen, Fräsen, Schleifen und Läppen zur Herstellung von Produkten mit einzigartigen Qualitätsmerkmalen für schwere Anwendungen.

Flexibilität, kurze Lieferzeiten und Co-Design sind die Aspekte, auf denen ENS seinen Service für seine Kunden aufbaut.

MATERIALEN	HANDLUNGEN UND BESCHICHTUNGEN	MASSE (MM)	
Kohlenstoffstahle	Induktionshärtung	Durchmesser	min 9 max 200
Legierte Stahle	Vollständige Härtung		
Edelstahle	Einsatzhärtung		
Bronze	Gasnitrieren		
Mehr nach Anfrage	DLC Beschichtung	Länge	max 1500
	Mehr nach Anfrage		
	Mehr nach Anfrage		

Prodotti realizzati su richiesta e disegno del cliente per soddisfare applicazioni dove gli standard non sono un'opzione.

Tornitura, fresatura, rettifica e lappatura per realizzare prodotti con caratteristiche qualitative uniche per condizioni di lavoro gravose.

Flessibilità, tempi di consegna brevi e co-design sono i pilastri su cui ENS basa il proprio servizio ai clienti.

MATERIALI	TRATTAMENTI E RIVESTIMENTI	DIMENSIONI (MM)	
Acciai al carbonio	Tempera ad induzione	Diametro	min 9 max 200
Acciai legati	Tempera integrale		
Acciai inossidabili	Cementazione e tempera		
Bronzo	Nitrurazione gassosa		
Altri a richiesta	Tenifer		
	Rivestimento DLC	Lunghezza	max 1500
	Altri a richiesta		

ENSCOAT COATING*

POLYMER-BASED COATING WITH GRAPHITE

OLYMERBASIERTE BESCHICHTUNG MIT GRAPHIT | RIVESTIMENTO POLIMERICO CON GRAFITE



*STANDARD ON BEA/B5A BUSHES 

*STANDARD BEI BEA/B5A BUSCHEN 

*STANDARD SU BUSSOLE BEA/B5A 

ADVANTAGES	
excellent dry lubrication	thickness: 10 to 30 μ
excellent anti-friction properties	operating temperature from -125 to 285 °C
longer lasting of coated parts	properties of coating remain intact, regardless of its level of wear
suitable as alternative option to sintered bushes	up to 250 h in salt spray
low friction coefficient < 0,06	color black
APPLICATIONS	
sliding components	transmission parts
stamping dies and injection moldings	pistons
processes where lubrication is not possible or difficult	automotive industry

VORTEILE	
hervorragende Trockenschmierung	Dicke: 10 bis 30 μ
hervorragende Anti-Griff-Eigenschaften	Betriebstemperatur von -125 bis 285 °C
längere Lebensdauer beschichteter Teile	Eigenschaften der Beschichtung bleiben erhalten, unabhängig vom Abnutzungsgrad
geeignet als Alternative zu Sinterbuchsen	bis zu 250 h im Salznebel
niedriger Reibungskoeffizient < 0,06	Farbe schwarz
ANWENDUNGEN	
Gleitelemente	Getriebeteile
Stanzwerkzeuge und Spritzgussteile	Kolben
Prozesse, bei denen eine Schmierung nicht möglich oder schwierig ist	Automobilindustrie

VANTAGGI	
eccellente lubrificazione a secco	spessore: da 10 a 30 μ
eccellenti proprietà anti-grip	temperatura di esercizio da -125 a 285 °C
maggiore durata delle parti rivestite	le proprietà del rivestimento rimangono intatte, indipendentemente dal livello di usura
adatto come alternativa alle boccole sinterizzate	fino a 250 ore in nebbia salina
basso coefficiente di attrito < 0,06	colore nero
APPLICAZIONI	
componenti di scorrimento	industria automobilistica
stampi di tranciatura e iniezione plastica	organi di trasmissione
processi in cui la lubrificazione non è possibile o è difficoltosa	pistoni

DLC (Diamond Like Carbon)*

CARBON-BASED COATING FOR HIGHER PERFORMANCE

KOHLENSTOFFBASIERTE BESCHICHTUNG FÜR EINE HÖHERE LEISTUNG
RIVESTIMENTO A BASE CARBONIO PER PERFORMANCE SUPERIORE



*APPLICATION ON REQUEST

*ANFERTIGUNG AUF ANFRAGE

*APPLICAZIONE SU RICHIESTA

ADVANTAGES - FEATURURES	
high surface hardness	3000 - 3500 HV 0,05
low coefficient of friction DLC vs steel	< 0,05 DLC
ideal for dry sliding	cleanrooms - no pollution
high resistance to corrosion	> 350 h in salt spray
color	dark grey - black
thickness	2 - 4 micron
APPLICATIONS	
sliding components	Al alloy molding
components subject to high abrasive wear	car engine components
components for molding ABS, HDPE, PC, PET	medical sector components
components for food sector machinery	

VORTEILE - EIGENSCHAFTEN	
hohe Oberflächenhärte	3000 - 3500 HV 0,05
niedriger Reibungskoeffizient DLC gegenüber Stahl	< 0,05 DLC
geeignet für trockene Reinräume	Reinräume – keine Belastung
hohe Korrosionsbeständigkeit	> 350 Stunden im Salznebel
Farbe	Dunkelgrau - Schwarz
Dicke	2 - 4 micron
ANWENDUNGEN	
Schiebeteile	Formteil aus Al-Legierung
Bauteile, die einem hohen abrasiven Verschleiß unterliegen	Komponenten für Automotoren
Komponenten zum Formen von ABS, HDPE, PC, PET	Komponenten für den medizinischen Bereich
Komponenten für Maschinen im Lebensmittelsektor	

VANTAGGI - CARATTERISTICHE	
durezza superficiale	3000 - 3500 HV 0,05
basso coefficiente di attrito DLC vs acciaio	< 0,05 DLC
ideale per scorrimenti a secco	camere bianche
alta resistenza alla corrosione	> 350 h in nebbia salina
colore	grigio scuro - nero
spessore	2 - 4 µ
APPLICAZIONI	
componenti soggetti a scorrimento	stampaggio leghe Al
componenti soggetti ad elevata usura abrasiva	componenti motori auto
componenti per stampaggio ABS, HDPE, PC, PET	componenti settore medicale
componenti per macchine settore alimentare	

1

COLOR IDENTIFYING THE FIELD OF APPLICATION OF THE ITEM

FARBE FÜR DIE KENNZEICHNUNG DES ANWENDUNGSBEREICHES DES PRODUKTES

COLORE IDENTIFICATIVO DEL CAMPO DI UTILIZZO DEL PRODOTTO

2

ITEM-TYPE IDENTIFICATION COLOR

PRODUKTTYP - IDENTIFIKATIONSFARBE

COLORE IDENTIFICATIVO DEL TIPO PRODOTTO

3

ITEM SERIES

PRODUKTSERIE

SERIE DI APPARTENENZA DEL PRODOTTO

4

ITEM TYPE

PRODUKTTYP

TIPO PRODOTTO

5

ITEM FAMILY CODE

PRODUKTFAMILIENCODE

CODICE FAMIGLIA PRODOTTO

6

PRODUCT DESCRIPTION

PRODUKTBESCHREIBUNG

DESCRIZIONE DEL PRODOTTO

7

INTERNATIONAL STANDARDS REFERENCE

INTERNATIONALE REFERENZNORMEN

STANDARD INTERNAZIONALI DI RIFERIMENTO

8

ENS MANUFACTURING FEATURES

ENS PRODUKTIONSBEZOGENE EIGENSCHAFTEN

CARATTERISTICHE SPECIFICHE DI PRODUZIONE ENS

9

TECHNICAL SPECIFICATIONS OF THE ITEM

TECHNISCHE PRODUKTEIGENSCHAFTEN

CARATTERISTICHE TECNICHE PRODOTTO

10

ITEMS AVAILABILITY: "ON STOCK" OR "LEAD TIME IN WORKING DAYS"

PRODUKTVERWALTUNGSART: AUF LAGER" ODER "LIEFERZEIT IN ARBEITSTAGEN

TIPO DI GESTIONE PRODOTTO: "A STOCK" O "TEMPO DI CONSEGNA IN GIORNI LAVORATIVI"



11

3D ITEM CAD FILE ON CADENAS

3D-PRODUKT-CAD-DATEI AUF CADENAS

FILE PRODOTTO 3D SU CADENAS



12

HOW TO BUILD THE PRODUCT CODE AND HOW TO ORDER IT

WIE DAS PRODUKT AUFZUBAUEN, UND WIE ES ZU BESTELLEN

COME COSTRUIRE IL CODICE PRODOTTO E ORDINARLO

13

DATA TABLE AND PRODUCT RANGE

MASSDATENTABELLE UND PRODUKTPALETTE

TAVOLA DATI DIMENSIONALI E GAMMA PRODOTTO



ALL SIZES ARE NOMINAL SIZES UNLESS A TOLERANCE RANGE IS INDICATED

ALLE MASSANGABEN OHNE TOLERANZEN GELTEN ALS NENNMASSE

TUTTE LE DIMENSIONI SENZA TOLLERANZA SI INTENDONO NOMINALI



5 BEPA

6 DEMOUNTABLE BUSH BRONZE PLATED

FÜHRUNGSBUCHSE MIT BUND BRONZEPLATTIERT | BUSSOLA ESTRAIBILE RIVESTIMENTO BRONZO

7 ISO 9448-6



Material: C45 - Bronze
Hardness: 54÷58 HRC (D3)
Execution: inner diameter bronze coated honed; D3 precision ground

STOCK

3D-CAD



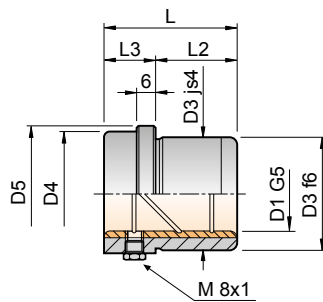
HOW TO ORDER
BEPA * D1 * - * TYPE
(BEPA19-5)

9

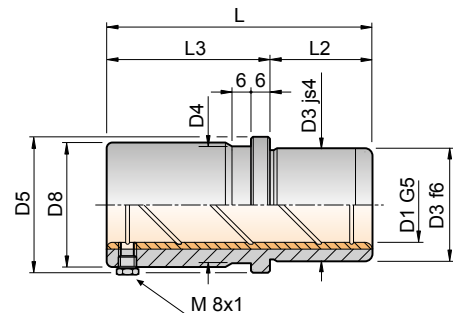
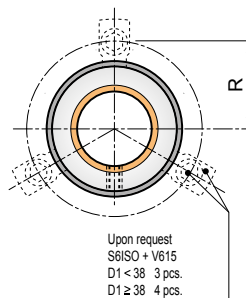
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11

12



TYPE 5



TYPE 1 - 4

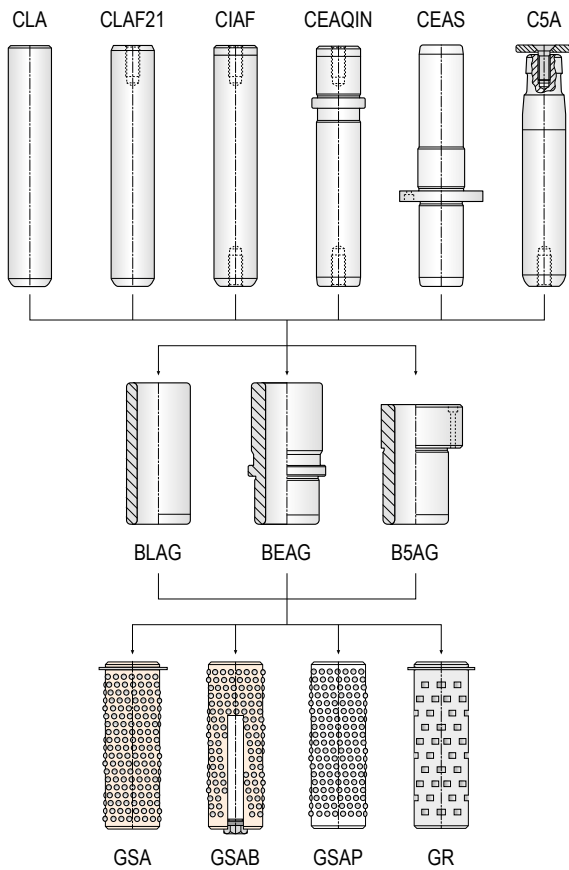
13

D1	D3	D4	D5	D8	R	L	L2	L3	TYPE
19 - 20	32	32	40	---	26	35	23	12	5
				39		43		20	4
				---		59		36	1
24 - 25	40	40	48	---	30	35	23	12	5
				46		59		36	4
				---		79		56	1
30 - 32	48	48	56	---	33,5	42	30	12	5
				53		75		45	4
				---		93		63	1
38 - 40	58	58	66	---	38,5	52	37	15	5
				63		82		45	4
				---		108		71	1
48 - 50	70	70	80	---	45,5	65	47	18	5
				77		97		50	4
				---		127		80	1
60 - 63	85	85	95	---	53	80	60	20	5
				92		116		56	4
				---		150		90	1
80	105	105	118	---	64,5	80	60	20	5
				115		120		60	4
				---		150		90	1

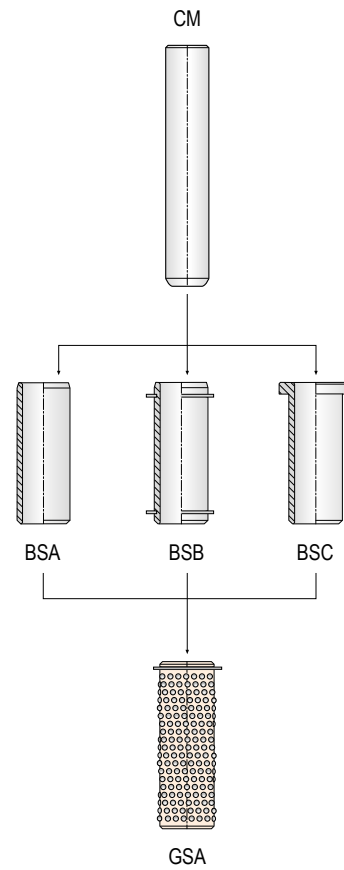
PAIRING GUIDE

AUSWAHLHILFE | GUIDA DI ACCOPPIAMENTO

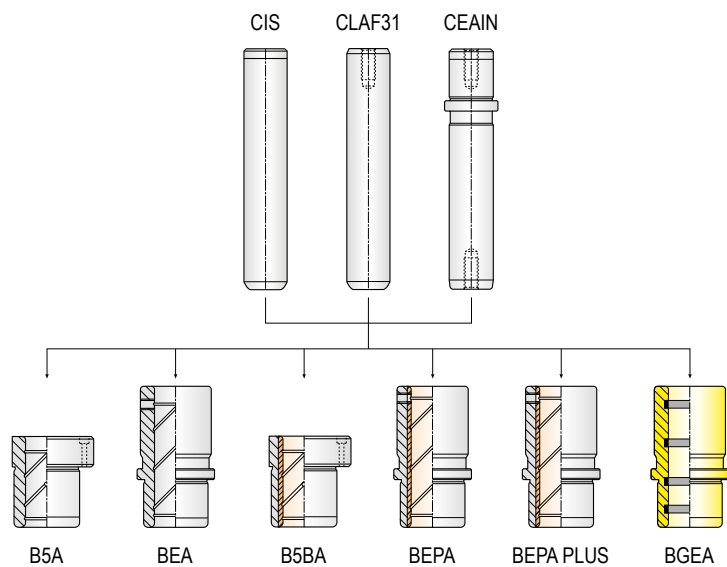
ISO - BALL AND ROLLER GUIDES



ISO - MINIATURE BALL GUIDES



ISO - SLIDING GUIDES



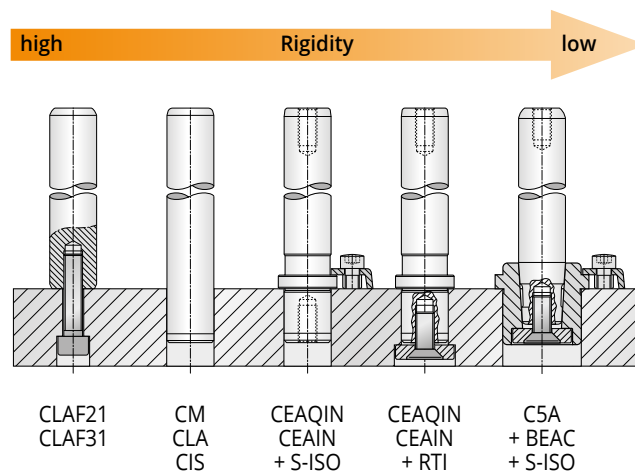
PAIRING GUIDE

AUSWAHLHILFE | GUIDA DI ACCOPPIAMENTO

ITEM TYPE	FAMILY CODE	TOLERANCE			V max (m/min) *	SIDE FORCE
		PLATE HOLE Ø	MOUNTING SIDE Ø	SLIDING Ø		
Pillar 	CLA	-0,015 -0,025	h3	h3	--	--
	CLAF21	--	--			
	CLAF	-0,015 -0,025	h3			
	CEAQIN	H5	js4			
	CEAS					
	C5A	--	--			
	CM	-0,015 -0,025	h3			
	CIS	-0,015 -0,025	h4	h4		
	CLAF31	--	--			
	CEAIN	H5	js4			
Bush 	BLAG + BALL CAGE	H5	js4		--	High (60 - 100)
	BEAG + BALL CAGE	H6				
	B5AG + BALL CAGE	H5				
	BLAG + ROLLER CAGE	H5				
	BEAG + ROLLER CAGE	H6				
	B5AG + ROLLER CAGE	H5	h6	--	High (60 - 100)	
	BSA					
	BSB					
	BSC					
	B5A					
	BEA	H6	js4	H7	Medium (20 - 60)	Medium
	B5BA	H5		G5		
	BEPA	H6				
	BEPA PLUS					
	BGEA		j6	H6		

* Maximal working speed

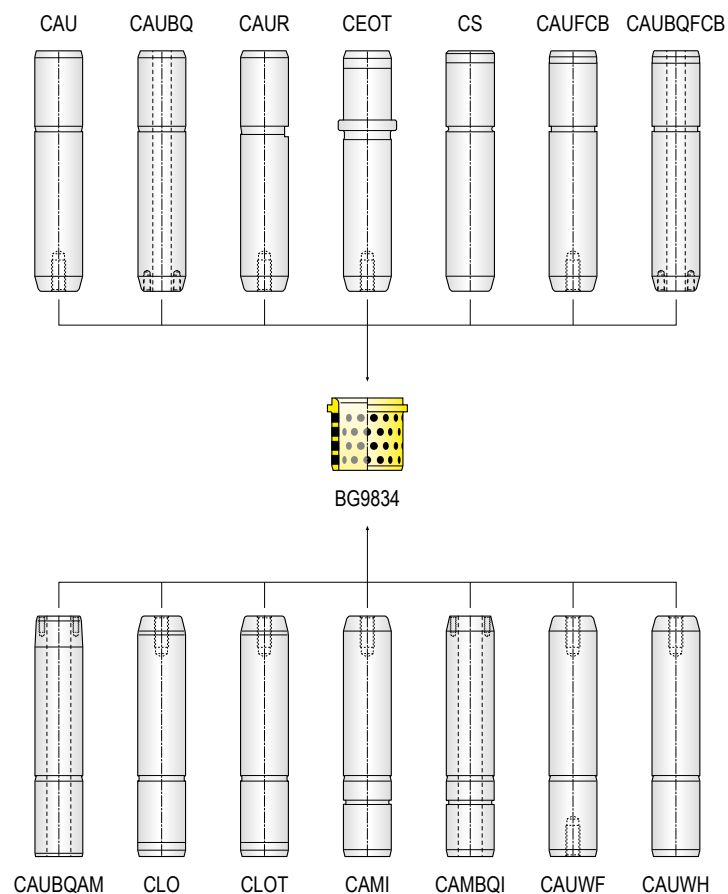
ISO – MOUNTING OPTIONS AND RIGIDITY



PAIRING GUIDE

AUSWAHLHILFE | GUIDA DI ACCOPPIAMENTO

AUTO - SLIDING GUIDES



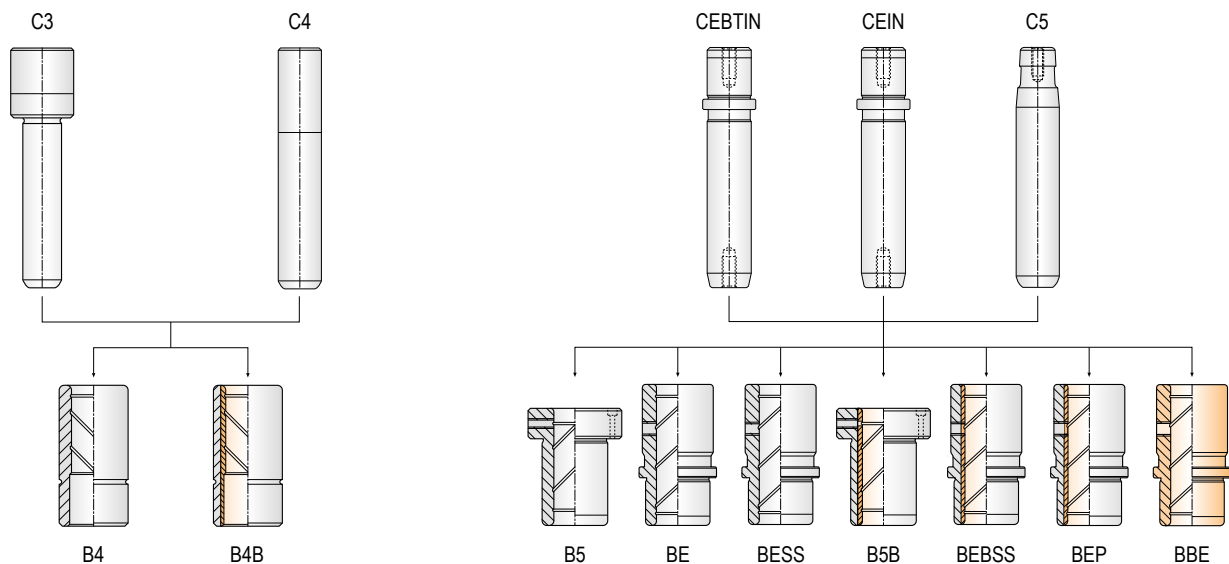
ITEM TYPE	FAMILY CODE	TOLERANCE			V max (m/min) *	SIDE FORCE
		PLATE HOLE Ø	MOUNTING SIDE Ø	SLIDING Ø		
Pillar 	CAU	H7	r6	f6	--	--
	CAUBQ					
	CAUR					
	CEOT					
	CS	M6	h5	h5		
	CAUFCB	H7	r6	f6		
	CAUBQFCB					
	CAUBQAM					
	CLO			g6		
	CLOT			f6		
	CAMI					
	CAMBQI					
	CAUWF					
CAUWH						
Bush 	BG9834		h6	H7	Medium (20 - 60)	Medium

* Maximal working speed

PAIRING GUIDE

AUSWAHLHILFE | GUIDA DI ACCOPPIAMENTO

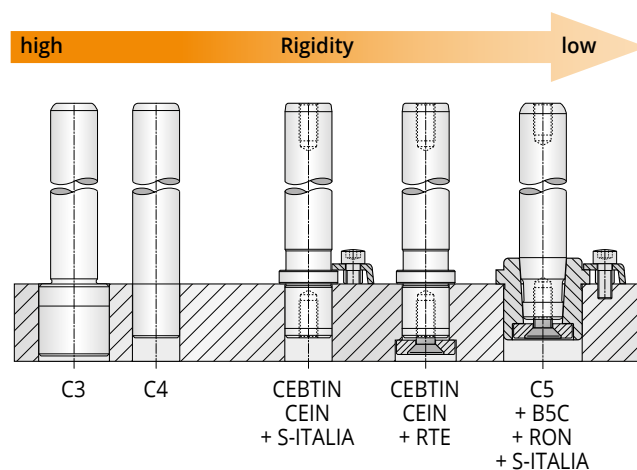
ITALIA - SLIDING GUIDES



ITEM TYPE	FAMILY CODE	TOLERANCE			V max (m/min) *	SIDE FORCE
		PLATE HOLE Ø	MOUNTING SIDE Ø	SLIDING Ø		
Pillar 	C3	H6	s6	h4	--	--
	C4					
	CEBTIN					
	CEIN					
	C5	--	--			
Bush 	B4	H6	s6	see item page	Low (0 - 20)	High
	B4B				Medium (20 - 60)	Medium
	B5		h4	+0,008 +0,012	Low (0 - 20)	High
	BE			G5		
	BESS		k5			
	B5B		h4	+0,008 +0,012	Medium (20 - 60)	Medium
	BEBSS		k5	G5		
	BEP		h4			
	BBE					

* Maximal working speed

ITALIA - MOUNTING OPTIONS AND RIGIDITY

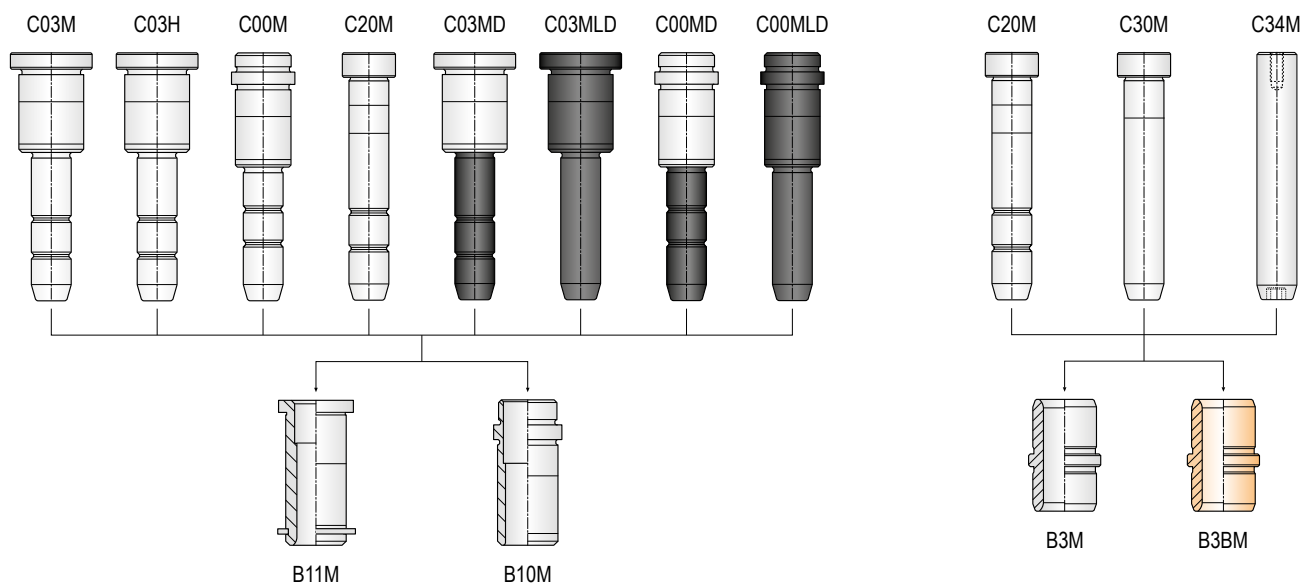


PAIRING GUIDE

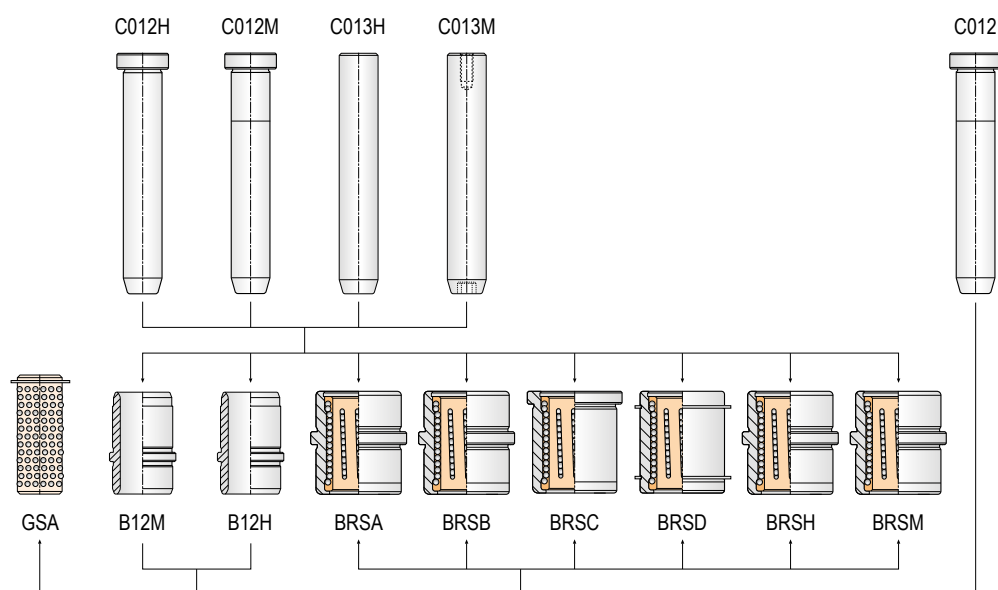
AUSWAHLHILFE | GUIDA DI ACCOPPIAMENTO

EURO - SLIDING GUIDES

EURO - SLIDING GUIDES



EURO - BALL GUIDES



PAIRING GUIDE

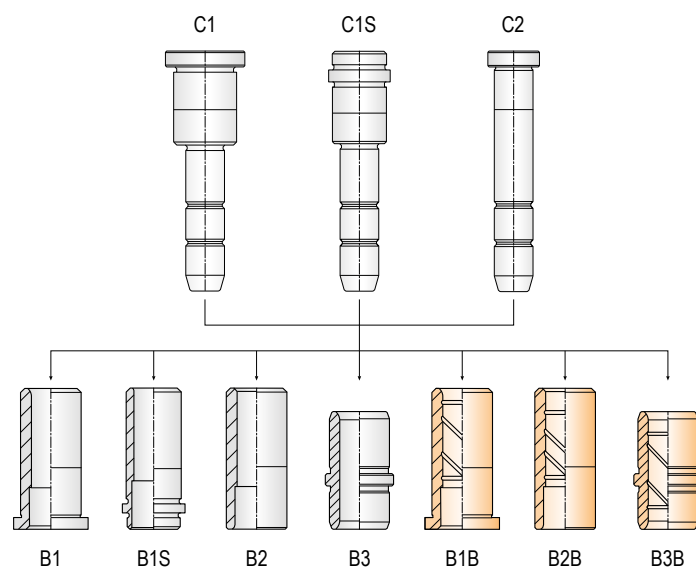
AUSWAHLHILFE | GUIDA DI ACCOPPIAMENTO

ITEM TYPE	FAMILY CODE	TOLERANCE		
		PLATE HOLE Ø	MOUNTING SIDE Ø	SLIDING Ø
Pillar 	C03M	H7	n5	g6
	C03H		k6	
	C00M		n5	
	C20M			
	C03MD			
	C03MLD			
	C00MD			
	C00MLD			
	C30M		n6	
	C34M		g6	
	C012H		h4	h4
	C012M		n6	
	C013H		h4	
	C013M		--	
	C012		n6	h5
Bush 	B11M	H7	n5	H7
	B10M		k6	
	B3M		g6	
	B3BM		k6	--
	B12M			
	B12H			
	BRSA			
	BRSB			
	BRSC			
	BRSD			
	BRSH			
	BRSM			

PAIRING GUIDE

AUSWAHLHILFE | GUIDA DI ACCOPPIAMENTO

ITALIA - SLIDING GUIDES



ITEM TYPE	FAMILY CODE	TOLERANCE		
		PLATE HOLE Ø	MOUNTING SIDE Ø	SLIDING Ø
Pillar 	C1	H7	n6	g6
	C1S			
	C2			
Bush 	B1	H7	n6	H7
	B1S			
	B2		J6	
	B3			
	B1B		n6	
	B2B		J6	
	B3B			



DIE COMPONENTS

CIS

STRAIGHT GUIDE PILLAR

FÜHRUNGSSÄULE | COLONNA LISCIA

~ DIN 9825 / ~ ISO 9182-2



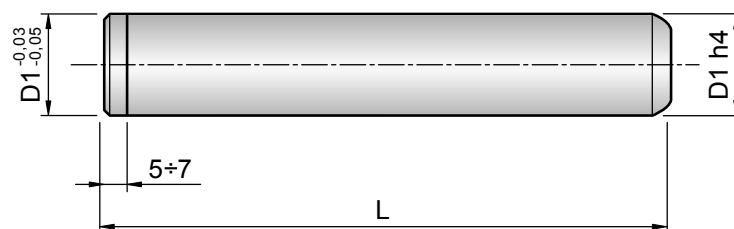
Material: 1.7131
Hardness: 61÷63 HRC
Execution: fine ground

STOCK

3D-CAD



HOW TO ORDER
CIS * D1 * L (CIS1590)



D1	L																																		
	90	100	112	120	125	130	140	150	160	170	180	190	200	210	220	224	230	240	250	260	270	280	300	315	320	350	355	360	400	450	500	600	700	800	
15 - 16	•	•	•		•		•		•		•		•			•			•																
18				•		•	•	•	•	•	•	•	•																						
19		•	•	•	•	•	•	•	•	•	•	•	•			•			•																
20		•	•		•		•		•		•		•			•			•																
24 - 25					•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			•		•	•	•	•			
30 - 32					•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			•		•	•	•	•			
38									•		•		•			•			•			•		•			•		•	•	•	•			
40									•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
42										•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•		•					
48												•				•			•			•		•			•		•	•	•				
50											•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
52											•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•			•	•	•			
60																			•			•		•			•		•	•	•				
63												•			•			•	•	•		•		•	•	•	•	•	•	•	•	•			
80																						•	•	•	•		•	•	•	•	•	•	•	•	

CM

STRAIGHT GUIDE PILLAR FOR MINIATURE SET

FÜHRUNGSSÄULE KLEINE ABMESSUNG | COLONNA LISCIA PER MINIATURE SET

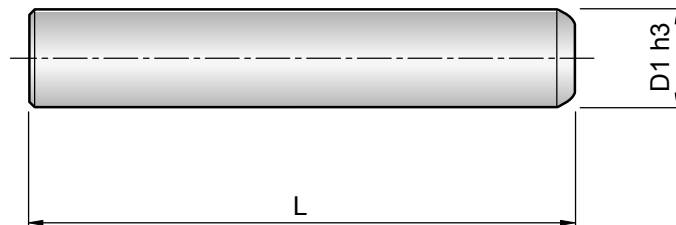
DIN 9825 / ISO 9182-2



Material: steel
 Hardness: 60÷64 HRC
 Execution: fine ground



HOW TO ORDER
 CM * D1 * L (CM340)



D1	L										
	30	40	50	60	80	90	100	112	125	140	160
3	◇	◇	◇	◇	◇						
4		◇	◇	◇	◇		◇				
5		◇	◇	◇	◇		◇				
6		◇	◇	◇	◇		◇		◇	◇	◇
8			■	■	■		■		■	■	■
10					■	■	■	■	■	■	
12					■	■	■	■	■	■	■

CLA

STRAIGHT GUIDE PILLAR

FÜHRUNGSSÄULE | COLONNA LISCIA

DIN 9825 / ISO 9182-2



Material: 1.7131
Hardness: 61 + 63 HRC
Execution: superfinished



3D-CAD



HOW TO ORDER
CLA * D1 * L (CLA1590)



D1	L																		
	90	100	112	125	140	160	180	200	224	250	280	315	355	400	450	500	600	700	800
15 - 16	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇									
19 - 20		◇	◇	◇	◇	◇	◇	◇	◇	◇									
24 - 25		◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇			
30 - 32				◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇			
38 - 40						◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇			
48 - 50								◇	◇	◇	◇	◇	◇	◇	◇	◇			
60 - 63										◇	◇	◇	◇	◇	◇	◇			
80											◇	◇	◇	◇	◇	◇	◇	◇	◇

CLAF31

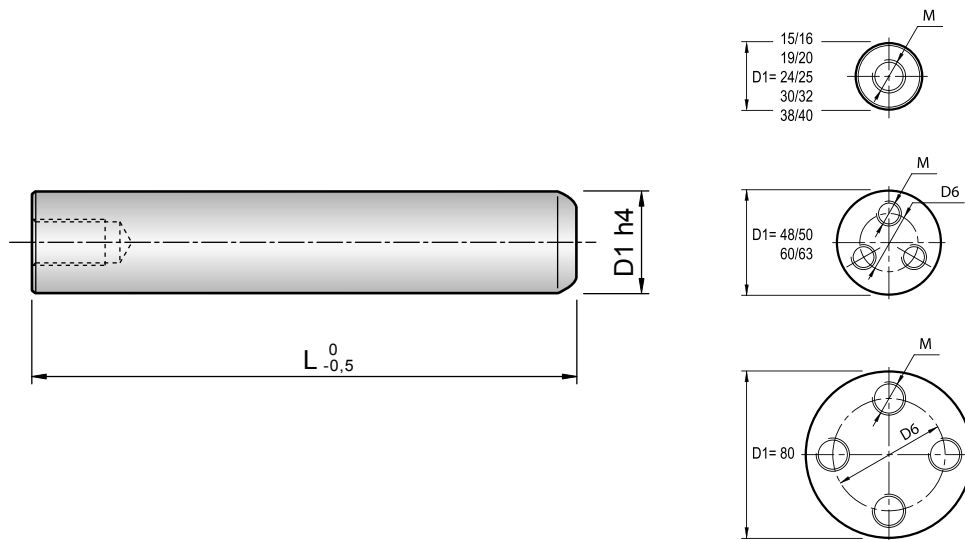
GUIDE PILLAR ENDWISE BOLT-ON TYPE

FÜHRUNGSSÄULE ZUM ANSCHRAUBEN | COLONNA DA AVVITARE

~ DIN 9825 / ~ ISO 9182-2



Material: 1.7131 Hardness: 61÷63 HRC Execution: fine ground	• STOCK DAYS 12	3D-CAD	HOW TO ORDER CLAF31 * D1 * L (CLAF311590)
---	-----------------------	--------	--



D1	D6	M	L																			
			90	100	112	125	140	160	180	200	224	250	280	315	355	400	450	500	550	600	700	800
15 - 16	---	M8	•	•	•	•	•	•	•	•	•	•	•	•	•							
19 - 20		M10		•	•	•	•	•	•	•	•	•	•	•	•	•						
24 - 25		M12		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				
30 - 32		M16					•	•	•	•	•	•	•	•	•	•	•	•				
38 - 40	28	M16						◊	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊
48 - 50		M12							◊	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊
60 - 63		34	M16									◊	◊	◊	◊	◊	◊	◊	◊	◊	◊	◊
80		54	M16										◊	◊	◊	◊	◊	◊	◊	◊	◊	◊

CLAF21

GUIDE PILLAR ENDWISE BOLT-ON TYPE

FÜHRUNGSSÄULE ZUM ANSCHRAUBEN | COLONNA DA AVVITARE

~ DIN 9825 / ~ ISO 9182-2



Material: 1.7131
 Hardness: 61÷63 HRC
 Execution: superfinished

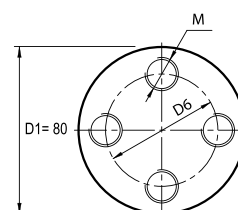
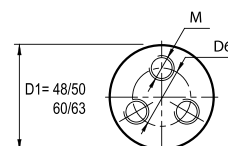
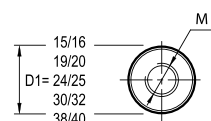
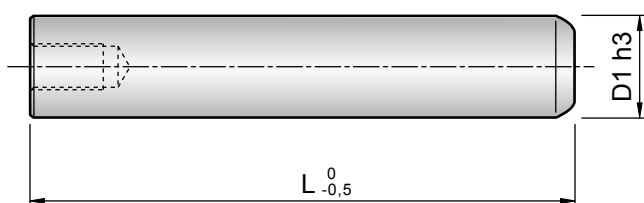


3D-CAD



HOW TO ORDER

CLAF21 * D1 * L (CLAF211590)



D1	D6	M	L																			
			90	100	112	125	140	160	180	200	224	250	280	315	355	400	450	500	550	600	700	800
15 - 16	---	M8	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇							
19 - 20		M10		◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇						
24 - 25		M12		◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇				
30 - 32		M16				◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇				
38 - 40								◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇
48 - 50	28	M12							◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇
60 - 63	34	M16										◇	◇	◇	◇	◇	◇	◇	◇	◇	◇	◇
80	54												◇	◇	◇	◇	◇	◇	◇	◇	◇	◇

CIAF

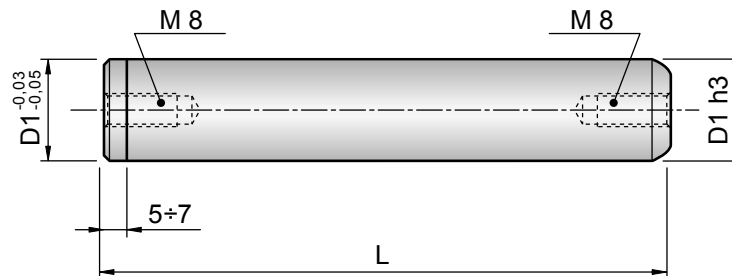
STRAIGHT GUIDE PILLAR WITH THREADS

FÜHRUNGSSÄULE INNENGEWINDE BEIDSEITIG | COLONNA LISCIA FILETTATA

~ DIN 9825 / ~ ISO 9182-2



Material: 1.7131 Hardness: 61÷63 HRC Execution: superfinished	STOCK	3D-CAD 	HOW TO ORDER CIAF * D1 * L (CIAF1590)
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D1	L																		
	90	100	112	125	140	160	180	200	224	250	280	315	355	400	450	500	600	700	800
15 - 16	•	•	•	•	•	•	•	•	•	•									
19 - 20		•	•	•	•	•	•	•	•	•									
24 - 25		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
30 - 32				•	•	•	•	•	•	•	•	•	•	•	•	•			
38 - 40						•	•	•	•	•	•	•	•	•	•	•			
48 - 50								•	•	•	•	•	•	•	•	•			
60 - 63										•	•	•	•	•	•	•			
80											•	•	•	•	•	•	•	•	•

CEAS

STRIPPER MOUNTED PILLAR

MITTENBUNDSÄULE | COLONNA CON FLANGIA



Material: 1.7131
 Hardness: 61÷63 HRC
 Execution: superfinished

• STOCK

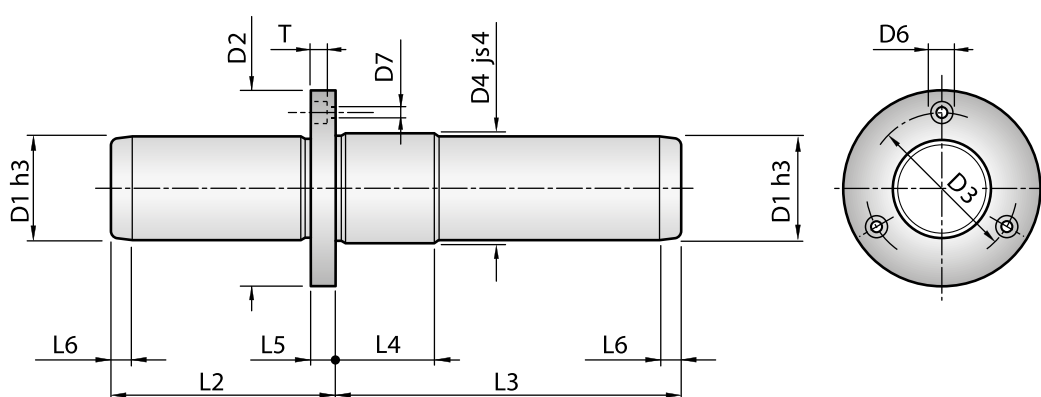


3D-CAD



HOW TO ORDER

CEAS * D1 * L2 * L3 (CEAS124050)



D1	D2	D3	D4	D6	D7	L4	L5	L6	T	L2	L3									
											50	60	70	80	90	100	110	120	130	140
12	28	20	13	6	3,4	12	6	3	3,4	40	♦	♦								
										50		♦	♦							
										60			♦							
										70			♦							
16	38	28	18			16		4		60				♦	♦					
										70					♦	♦				
										80						♦				
										90						♦				
19	42	32	22	8	4,5	20	8		4,6	70					♦	♦				
										80						♦	♦			
										90						♦	♦			
										100							♦	♦		
25	48	38	26			22		6		80						♦	♦			
										90							♦	♦		
										100								♦	♦	
										110									♦	♦
32	60	48	34	10	5,5	25	10		5,7	80						♦	♦			
										90							♦	♦		
										100								♦	♦	
										110									♦	♦
40	70	56	42	11	6,6	27	12		6,8	90							♦	♦		
										100									♦	♦
										110										♦
										120										♦

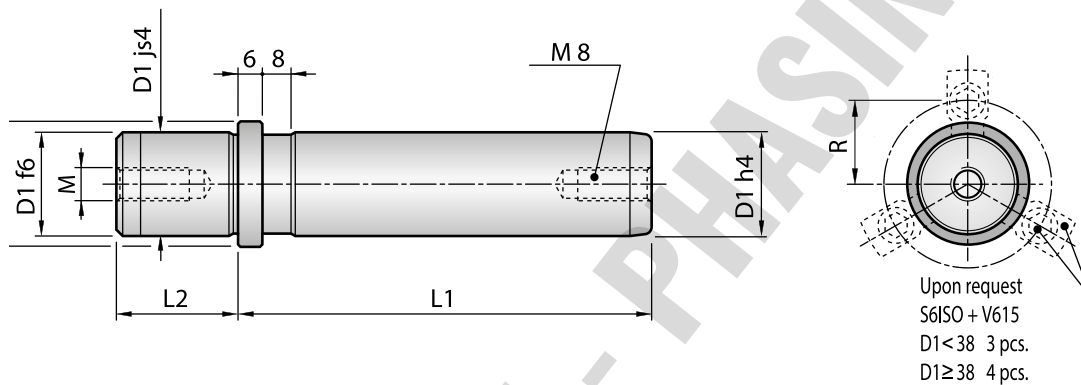
CEA

DEMOUNTABLE GUIDE PILLAR

FÜHRUNGSSÄULE MIT BUND | COLONNA ESTRAIBILE



Material: 1.7131 Hardness: 61÷63 HRC Execution: fine ground	STOCK	3D-CAD 	HOW TO ORDER CEA * D1 * L1 (CEA15100) 
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D1	D3	R	M	L2	L1												
					100	112	125	140	160	180	200	224	250	280	315	355	400
15 - 16	22	16,5	M8	20	•	•	•	•	•	•	•						
19 - 20	25	18		23	•	•	•	•	•	•	•						
24 - 25	32	21,5		30	•	•	•	•	•	•	•	•	•				
30 - 32	40	25,5		37		•	•	•	•	•	•	•	•	•	•		
38 - 40	50	30,5		47			•	•	•	•	•	•	•	•	•	•	
48 - 50	63	37	M12	60				•	•	•	•	•	•	•	•	•	•
60 - 63	80	45,5							•	•	•	•	•	•	•	•	•
80	95	53									•	•	•	•	•	•	•

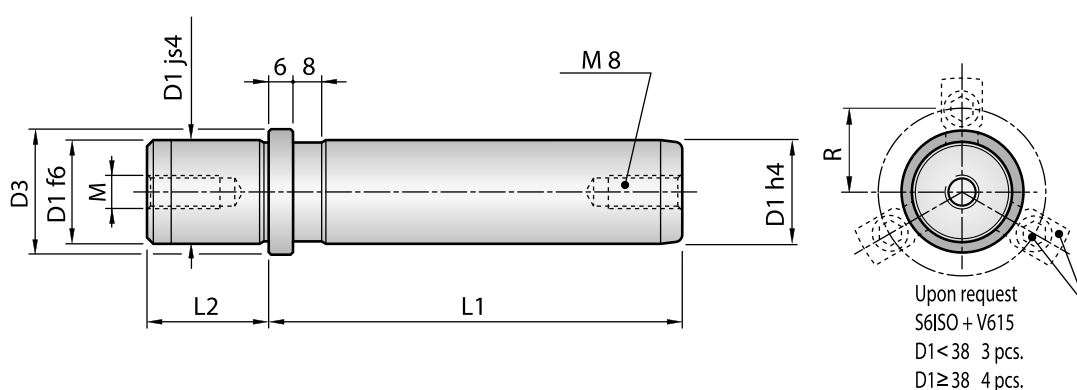
CEAIN

DEMOUNTABLE GUIDE PILLAR

FÜHRUNGSSÄULE MIT BUND | COLONNA ESTRAIBILE



Material: steel Hardness: 60 ÷ 63 HRC (induction) Execution: fine ground	STOCK	3D-CAD 	HOW TO ORDER CEAIN * D1 * L1 (CEAIN15100)
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D1	D3	R	M	L2	L1												
					100	112	125	140	160	180	200	224	250	280	315	355	400
15 - 16	22	16,5	M8	20	•	•	•	•	•	•	•						
19 - 20	25	18		23	•	•	•	•	•	•	•						
24 - 25	32	21,5		30	•	•	•	•	•	•	•	•	•				
30 - 32	40	25,5		37		•	•	•	•	•	•	•	•	•	•		
38 - 40	50	30,5					•	•	•	•	•	•	•	•	•	•	
48 - 50	63	37		47				•	•	•	•	•	•	•	•	•	•
60 - 63	80	45,5							•	•	•	•	•	•	•	•	•
80	95	53	M12	60							•	•	•	•	•	•	•

CEAQ

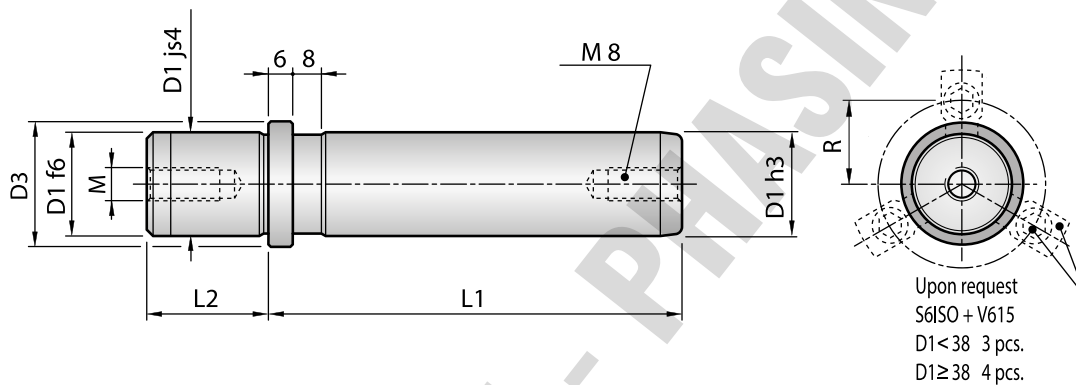
DEMOUNTABLE GUIDE PILLAR

FÜHRUNGSSÄULE MIT BUND | COLONNA ESTRAIBILE

DIN 9825 / ~ ISO 9182-5



Material: 1.7131 Hardness: 61÷63 HRC Execution: superfinished	STOCK	3D-CAD 	HOW TO ORDER CEAQ * D1 * L1 (CEAQ15100)
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D1	D3	R	M	L2	L1												
					100	112	125	140	160	180	200	224	250	280	315	355	400
15 - 16	22	16,5	M8	20	•	•	•	•	•	•	•						
19 - 20	25	18		23	•	•	•	•	•	•	•						
24 - 25	32	21,5		30	•	•	•	•	•	•	•	•	•				
30 - 32	40	25,5		37		•	•	•	•	•	•	•	•	•	•		
38 - 40	50	30,5		47			•	•	•	•	•	•	•	•	•	•	
48 - 50	63	37						•	•	•	•	•	•	•	•	•	•
60 - 63	80	45,5	M12						•	•	•	•	•	•	•	•	•
80	95	53		60							•	•	•	•	•	•	•

CEAQIN

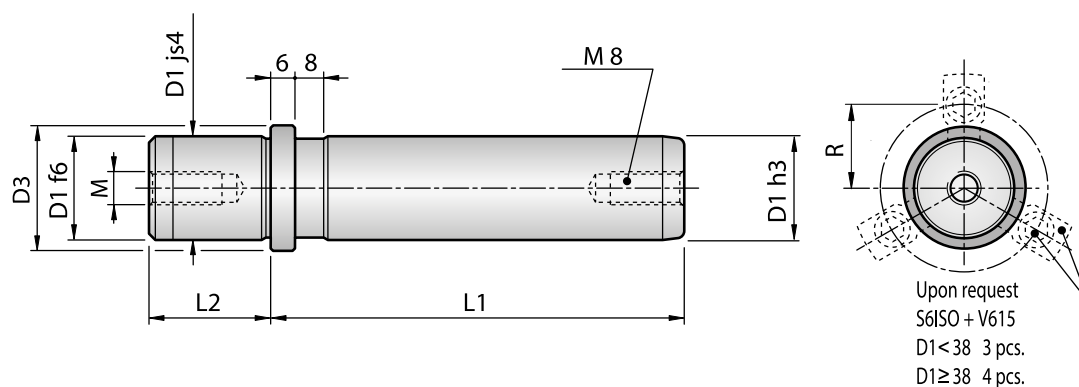
DEMOUNTABLE GUIDE PILLAR

FÜHRUNGSSÄULE MIT BUND | COLONNA ESTRAIBILE

DIN 9825 / ~ ISO 9182-5



Material: steel Hardness: 60 ÷ 63 HRC (induction) Execution: superfinished	STOCK	3D-CAD 	HOW TO ORDER CEAQIN * D1 * L1 (CEAQIN15100)
---	-------	------------	--



D1	D3	R	M	L2	L1												
					100	112	125	140	160	180	200	224	250	280	315	355	400
15 - 16	22	16,5	M8	20	•	•	•	•	•	•	•						
19 - 20	25	18		23	•	•	•	•	•	•							
24 - 25	32	21,5		30	•	•	•	•	•	•	•						
30 - 32	40	25,5		37		•	•	•	•	•	•	•	•				
38 - 40	50	30,5					•	•	•	•	•	•	•	•	•		
48 - 50	63	37		47				•	•	•	•	•	•	•	•	•	•
60 - 63	80	45,5							•	•	•	•	•	•	•	•	•
80	95	53	M12	60							•	•	•	•	•	•	•

C5A

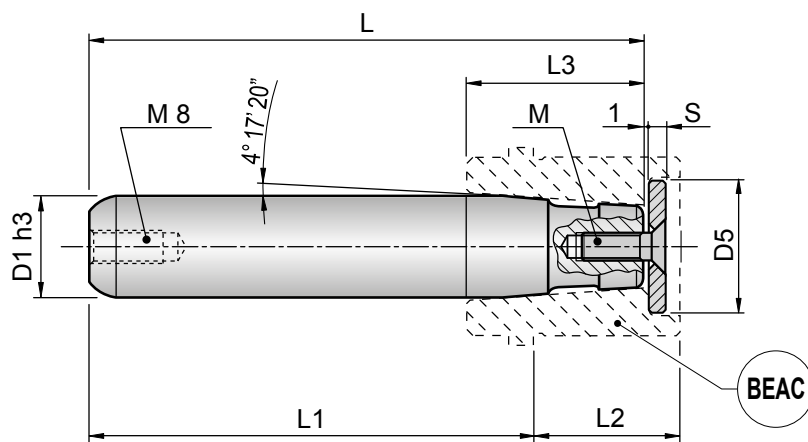
DEMOUNTABLE CONICAL PILLAR (WITH WASHER AND SCREW)

FÜHRUNGSSÄULE MIT KONISCHEM SCHAFT (MIT SCHEIBE UND SCHRAUBE) | COLONNA CONICA (COMPLETA DI RONDELLA E VITE)

DIN 9825 / ISO 9182-4



Material: 1.7131 Hardness: 61÷63 HRC Execution: superfinished	STOCK	3D-CAD 	HOW TO ORDER C5A * D1 * L1 (C5A24100)
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D1	D5	S	M	L3	L	L1												
						100	112	125	140	160	180	200	224	250	280	315	355	
24 - 25	25	3	M8X20	35	123	•												
					135		•											
					148			•										
					163				•									
					183					•								
					203						•							
					223							•						
					247								•					
273											•							
30 - 32	32			48	145		•											
					158			•										
					173				•									
					193					•								
					213						•							
					233							•						
					257								•					
					283									•				
313													•					
38 - 40	40	5			158			•										
					173				•									
					193					•								
					213						•							
					233							•						
					257								•					
					283									•				
					313										•			
348														•				

to be continued.....

C5A

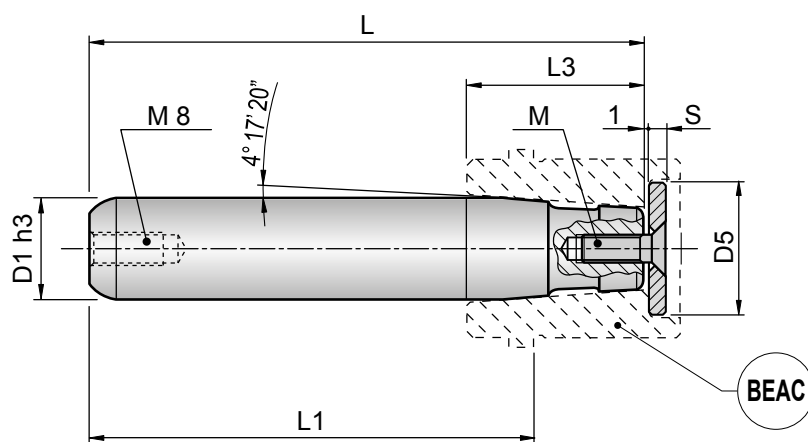
DEMOUNTABLE CONICAL PILLAR (WITH WASHER AND SCREW)

FÜHRUNGSSÄULE MIT KONISCHEM SCHAFT (MIT SCHEIBE UND SCHRAUBE) | COLONNA CONICA (COMPLETA DI RONDELLA E VITE)

DIN 9825 / ISO 9182-4



Material: 1.7131 Hardness: 61÷63 HRC Execution: superfinished	STOCK	3D-CAD 	HOW TO ORDER C5A * D1 * L1 (C5A24100)
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.....continue

D1	D5	S	M	L3	L	L1											
						100	112	125	140	160	180	200	224	250	280	315	355
48 - 50	50	5	M10X20	58	180				•								
					200				•								
					220					•							
					240						•						
					264							•					
					290								•				
					320									•			
					355											•	
					395												
60 - 63	63	6	M12X30	69	211					•							
					231					•							
					251						•						
					275							•					
					301								•				
					331									•			
					366											•	
406													•				

BEAC

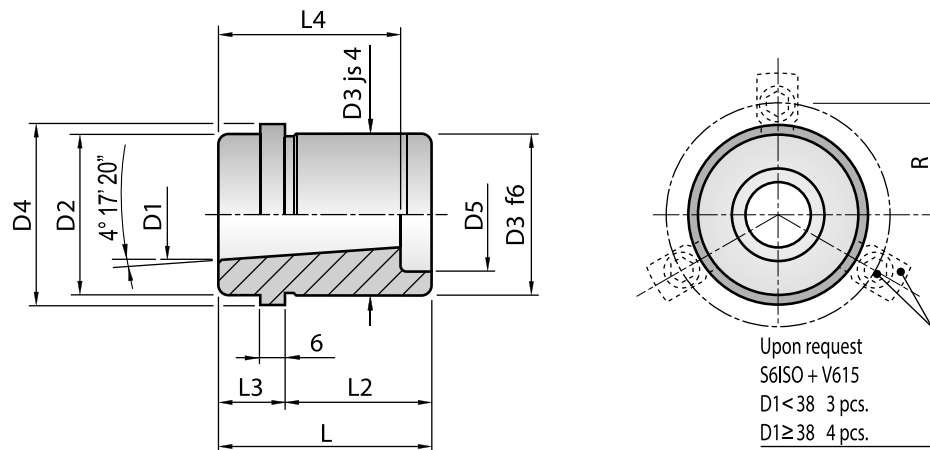
DEMOUNTABLE CONICAL BUSH

HALTEBUCHSE FÜR KONISCHE FÜHRUNGSBUCHSE | BUSSOLA CONICA

DIN 9825 / ISO 9182-4



Material: 1.7131 Hardness: 61÷63 HRC Execution: conical diameter and D3 fine ground	STOCK	3D-CAD 	HOW TO ORDER BEAC * D1 * L2 (BEAC3037)
--	-------	------------	---



D1	D2	D3	D4	D5	R	L	L2	L3	L4
24 - 25	40	40	48	26	30	49	37	12	36
						59	47		
30 - 32	48	48	56	33	33,5	52	37	15	49
						62	47		
38 - 40	58	58	66	41	38,5	75	60	18	59
						65	47		
48 - 50	70	70	80	51	45,5	78	60	18	59
						95	77		
60 - 63	85	85	95	64	53	95	77	18	70
						95	77		

BSA

GUIDE BUSH FOR MINIATURE SET

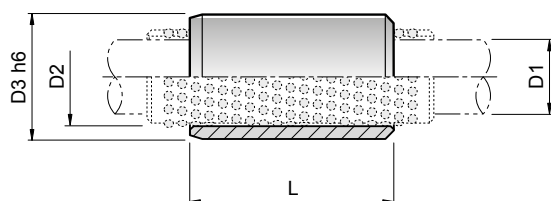
KUGELFÜHRUNGSBUCHSE KLEINE ABMESSUNG | BUSSOLA LISCIA PER MINIATURE SET



Material: steel
Hardness: 60÷64 HRC
Execution: inner diameter honed; outer diameter fine ground



HOW TO ORDER
BSA * D1 * L (BSA310)



D1	D2	D3	L								
			10	15	20	23	25	30	35	37	40
3	5	7	◇	◇	◇						
4	6	8	◇	◇	◇		◇				
5	7	10	◇	◇	◇		◇	◇			
6	8	11		◇	◇		◇	◇	◇		◇
8	10	14		■	■		■	■	■		■
10	14	22				■		■		■	
12	16					■		■		■	

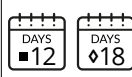
BSB

GUIDE BUSH FOR MINIATURE SET

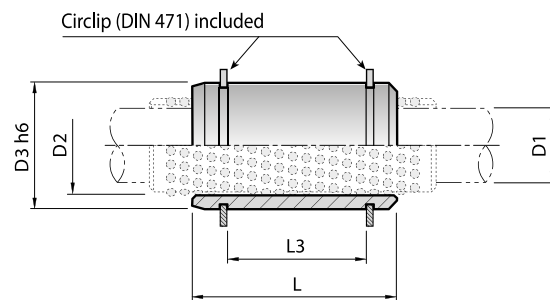
KUGELFÜHRUNGSBUCHSE KLEINE ABMESSUNG | BUSSOLA LISCIA PER MINIATURE SET



Material: steel
Hardness: 60÷64 HRC
Execution: inner diameter honed; outer diameter fine ground



HOW TO ORDER
BSB * D1 * L (BSB310)



D1	D2	D3	L3	L				
				10	20	30	40	50
3	5	7	---	◇	◇	◇		
4	6	8		◇	◇	◇		
5	7	10	10		◇			
			20			◇		
6	8	11	10		◇			
			20			◇		
			30				◇	
8	10	12	10		■			
			20			■		
			30				■	
10	14	22	20			■		
			30				■	
			40					■
12	16		20			■		
			30				■	
			40					■

BSC

GUIDE BUSH FOR MINIATURE SET

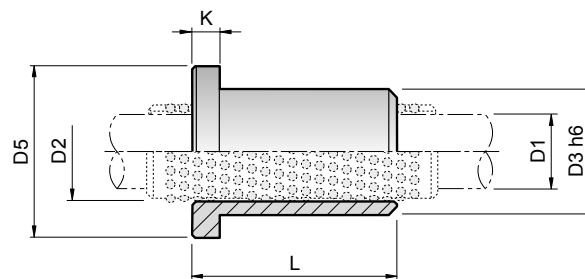
KUGELFÜHRUNGSBUCHSE KLEINE ABMESSUNG | BUSSOLA LISCIA PER MINIATURE SET



Material: steel
Hardness: 60÷64 HRC
Execution: inner diameter honed; outer diameter fine ground



HOW TO ORDER
BSC * D1 * L (BSC310)



D1	D2	D3	D5	K	L				
					10	20	30	40	50
3	5	7	9	2,5	◇	◇	◇		
4	6	8	10	3	◇	◇	◇		
5	7	10	12		◇	◇	◇		
6	8	11	13	4		◇	◇	◇	
8	10	12	14			■	■	■	
10	14	22	24				■	■	■
12	16						■	■	■

BLAG

GUIDE BUSH FOR BALL CAGE

KUGELFÜHRUNGSBUCHSE | BUSSOLA LISCIA PER GABBIA A SFERE

ISO 9448-3



Material: 1.7131
 Hardness: 61÷63 HRC
 Execution: inner diameter honed; outer diameter fine ground

• STOCK

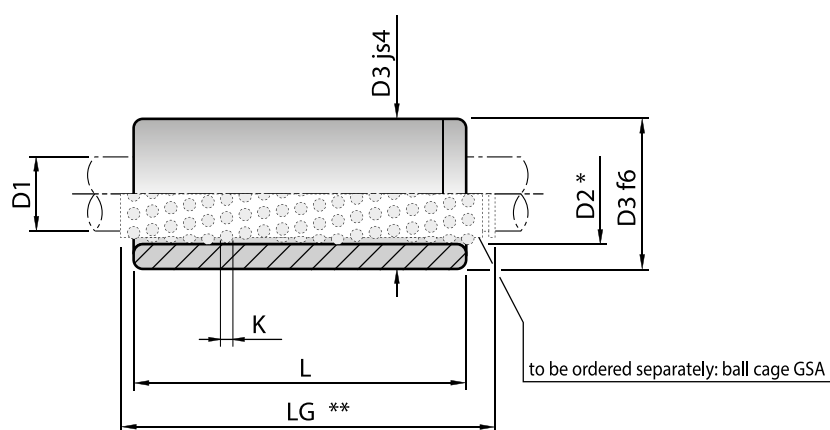


3D-CAD



HOW TO ORDER

BLAG * D1 * L (BLAG1223)



* $D2 = D1 + 2K$

** Suggested length for ball cage

D1	D3	K	LG	L								
				23	30	37	47	60	77	95	120	
12	22	2	30	◇								
			40		◇	◇						
15 - 16	28	3	45	•	•	•						
			56				•					
			71					•				
			45	•	•	•						
19 - 20	32		56				•					
			71					•				
			95						•			
24 - 25	40		45	•	•	•						
			56				•					
			71					•				
			95						•			

to be continued.....

BLAG

GUIDE BUSH FOR BALL CAGE

KUGELFÜHRUNGSBUCHSE | BUSSOLA LISCIA PER GABBIA A SFERE

ISO 9448-3


Material: 1.7131
Hardness: 61÷63 HRC
Execution: inner diameter honed; outer diameter fine ground

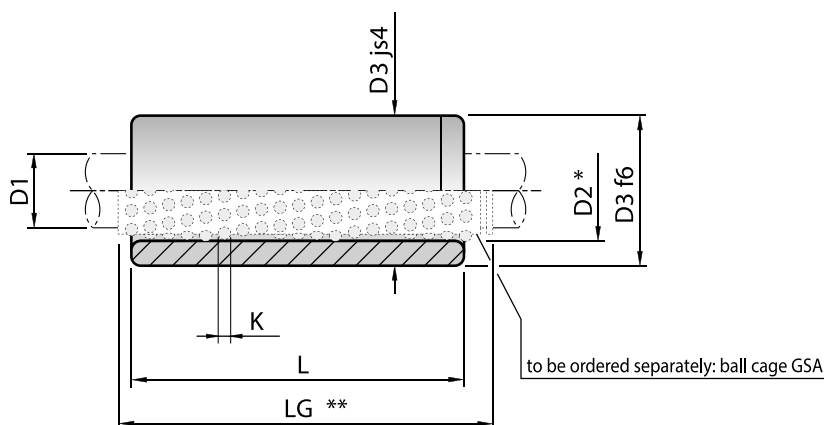
• STOCK



3D-CAD



HOW TO ORDER

BLAG * D1 * L (BLAG1223)


.....continue

D1	D3	K	LG	L								
				23	30	37	47	60	77	95	120	
30 - 32	48	4	45		•							
			50			•						
			56				•					
			71					•				
			95						•			
120								•				
38 - 40	58		45		•							
			50			•						
			63				•					
			80					•				
		95						•				
120							•					
140								•				
48 - 50	70	4	50			•						
			63				•					
			80					•				
			95						•			
			120							•		
140									•			
60 - 63	85		95					•	•			
			120							•		
80	105		6	140							•	•

BEAG

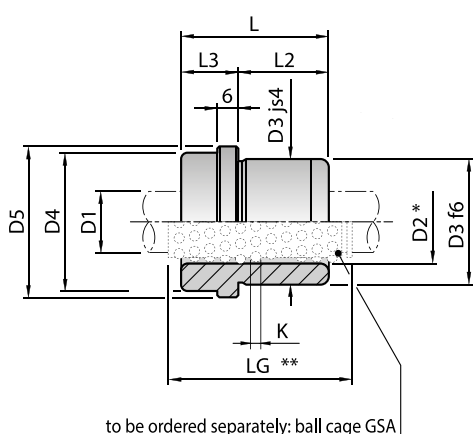
DEMOUNTABLE BUSH FOR BALL CAGE

KUGELFÜHRUNGSBUCHSE MIT BUND | BUSSOLA ESTRAIBILE PER GABBIA A SFERE

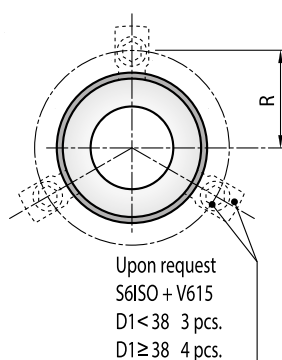
ISO 9448-7



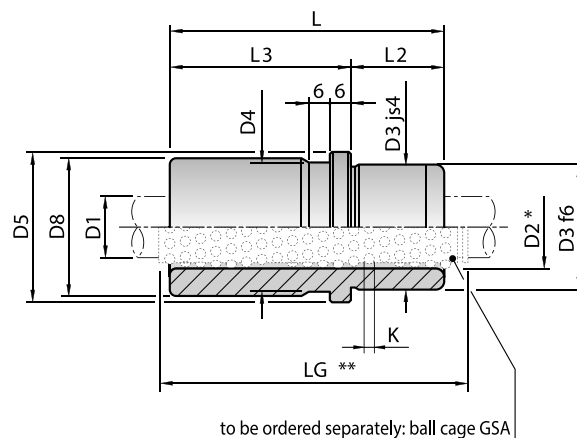
Material: 1.7131 Hardness: 61÷63 HRC Execution: inner diameter honed; D3 fine ground	STOCK	3D-CAD 	HOW TO ORDER BEAG * D1 * - * TYPE (BEAG19-7)
--	-------	------------	---



TYPE 7



Upon request
S6ISO + V615
D1 < 38 3 pcs.
D1 ≥ 38 4 pcs.



TYPE 4 - 5 - 6 - 9

* D2 = D1 + 2K

** Suggested length for ball cage

D1	D3	D4	D5	D8	R	L	L2	L3	LG	K	TYPE
19 - 20	32	32	40	---	26	35	23	12	45	3	7
				39		43		20	56		6
						59		36	71		4
24 - 25	40	40	48	---	30	35		30	12		45
				46		55	25		71		9
						59	23	36	95		6
						79		56			4
						80	30	50		5	
				42		12		56	7		
30 - 32	48	48	56	53	33,5	69	37	32	80	9	
						75	30	45	95	6	
						93		63	120	4	
						93	37	56		5	
						38 - 40	58	58	66	63	38,5
79	32	95	9								
82	37	45	105	6							
108		71	120	4							
110	47	63	140	5							
48 - 50	70	70	80	77	45,5						
						96	36	120	9		
						97	47		50	6	
						127		80	140	4	
						131	60	71	160	5	
60 - 63	85	85	95	---	53	80		20	95	7	
				92		116		56	140	6	
						150		90	160	4	
80	105	105	118	---	64,5	80	60	20	120	6	7
				115		120		60	140		6
						150		90	160		4

B5AG

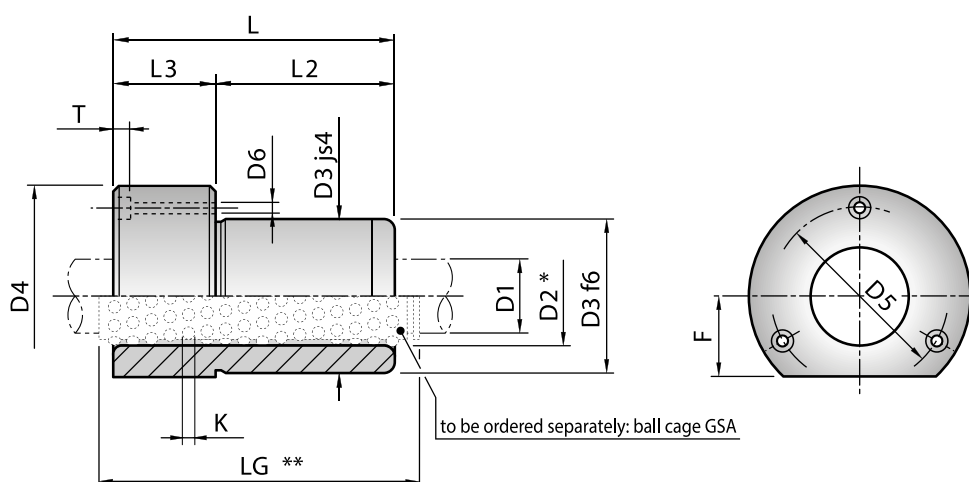
FLANGED GUIDE BUSH FOR BALL CAGE

KUGELFÜHRUNGSBUCHSE MIT FLANSCH | BUSSOLA A COLLARE PER GABBIA A SFERE

ISO 9448-5



Material: 1.7131 Hardness: 61÷63 HRC Execution: inner diameter honed; D3 fine ground	STOCK	3D-CAD 	HOW TO ORDER B5AG * D1 * - * TYPE (B5AG15-6)
---	-------	------------	--



* $D2 = D1 + 2K$

** Suggested lenght for ball cage

D1	D3	D4	D5	D6	T	F	L	L2	L3	LG	K	TYPE
15 - 16	28	45	35	4,5	3,4	15	29	23	6	45	3	6
							36	30				5
19 - 20	32	50	40	4,5	4,6	18	38	23	15	56		6
							45	30		71		5
							52	37		45		4
24 - 25	40	63	50	5,5	5,7	23	38	23	15	71	4	6
							55	30		80		5
							62	37		95		4
30 - 32	48	72	58	5,5	5,7	28	45	30	25	80	4	6
							62	37		95		5
							72	47		120		4
38 - 40	58	85	70	6,6	6,8	33	55	30	25	80	4	6
							67	37		95		5
							77	47		120		4
48 - 50	70	104	86	9	9	38	62	37	25	80	6	6
							89	47		95		5
							102	60		120		4
60 - 63	85	120	100	9	9	46	89	47	42	95	6	5
							102	60		120		4
							102	60		120		4
80	105	148	125	11	11	56	125	75	50	140	6	4

BEBA

DEMOUNTABLE BUSH STEEL / BRONZE

FÜHRUNGSBUCHSE MIT BUND MIT BRONZEEINSATZ | BUSSOLA ESTRAIBILE ACCIAIO / BRONZO

ISO 9448-6



Material: 1.7131 - Bronze
Hardness: 52÷54 HRC
Execution: inner diameter bronze insert, honed; D3 fine ground

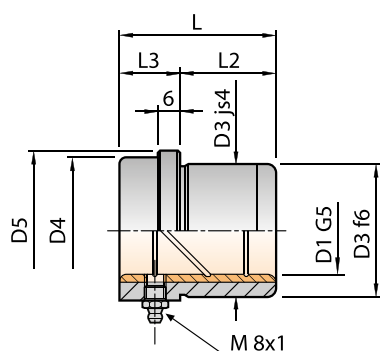
STOCK

3D-CAD

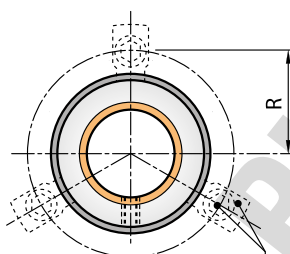


HOW TO ORDER

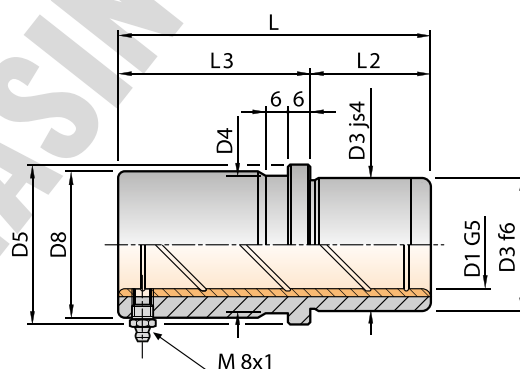
BEBA * D1 * - * TYPE
(BEBA19-5)



TYPE 5



Upon request
 S6ISO + V615
 D1 < 38 3 pcs.
 D1 ≥ 38 4 pcs.



TYPE 1 - 4

D1	D3	D4	D5	D8	R	L	L2	L3	TYPE
19 - 20	32	32	40	---	26	35	23	12	5
				39		43		20	4
				---		59		36	1
24 - 25	40	40	48	---	30	35	23	12	5
				46		59		36	4
				---		79		56	1
30 - 32	48	48	56	---	33,5	42	30	12	5
				53		75		45	4
				---		93		63	1
38 - 40	58	58	66	---	38,5	52	37	15	5
				63		82		45	4
				---		108		71	1
48 - 50	70	70	80	---	45,5	65	47	18	5
				77		97		50	4
				---		127		80	1
60 - 63	85	85	95	---	53	80	60	20	5
				92		116		56	4
				---		150		90	1
80	105	105	118	---	64,5	80	60	20	5
				115		120		60	4
				---		150		90	1

BEBC

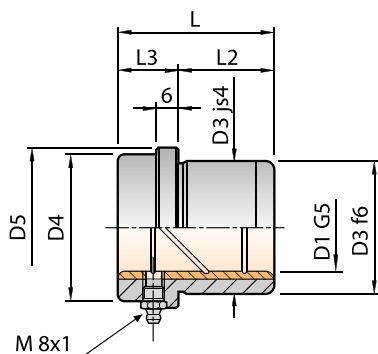
DEMOUNTABLE BUSH BRONZE PLATED

FÜHRUNGSBUCHSE MIT BUND BRONZEPLATTIERT | BUSSOLA ESTRAIBILE RIVESTIMENTO BRONZO

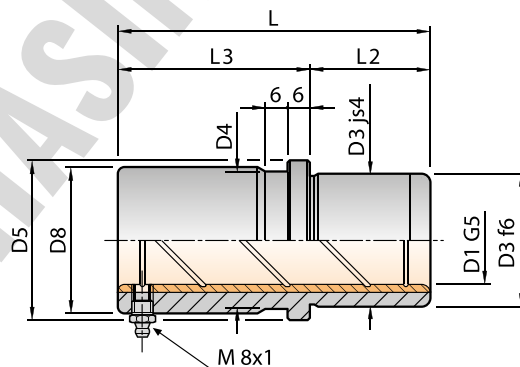
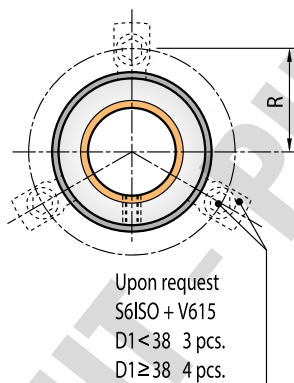
ISO 9448-6



Material: C45 - Bronze Hardness: 54÷58 HRC (induction) Execution: inner diameter bronze coated, honed; D3 fine ground	STOCK	3D-CAD	HOW TO ORDER BEBC * D1 * - * TYPE (BEBC19-5)
--	-------	--------	---



TYPE 5



TYPE 1 - 4

D1	D3	D4	D5	D8	R	L	L2	L3	TYPE
19 - 20	32	32	40	---	26	35	23	12	5
				39		43		20	4
				---		59		36	1
24 - 25	40	40	48	---	30	35	23	12	5
				46		59		36	4
				---		79		56	1
30 - 32	48	48	56	---	33,5	42	30	12	5
				53		75		45	4
				---		93		63	1
38 - 40	58	58	66	---	38,5	52	37	15	5
				63		82		45	4
				---		108		71	1
48 - 50	70	70	80	---	45,5	65	47	18	5
				77		97		50	4
				---		127		80	1
60 - 63	85	85	95	---	53	80	60	20	5
				92		116		56	4
				---		150		90	1
80	105	105	118	---	64,5	80	60	20	5
				115		120		60	4
				---		150		90	1

BEPA

BRONZE PLATED DEMOUNTABLE BUSH

FÜHRUNGSBUCHSE MIT BUND BRONZEPLATTIERT | BUSSOLA ESTRAIBILE RIVESTIMENTO BRONZO

ISO 9448-6



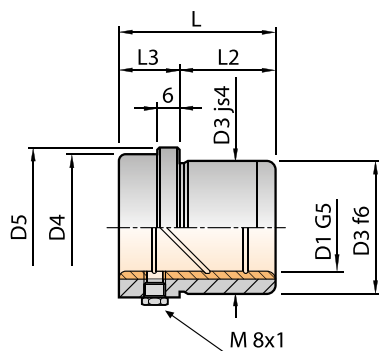
Material: C45 - Bronze
Hardness: D3 54÷58 HRC (induction)
Execution: inner diameter bronze coated, honed; D3 fine ground

STOCK

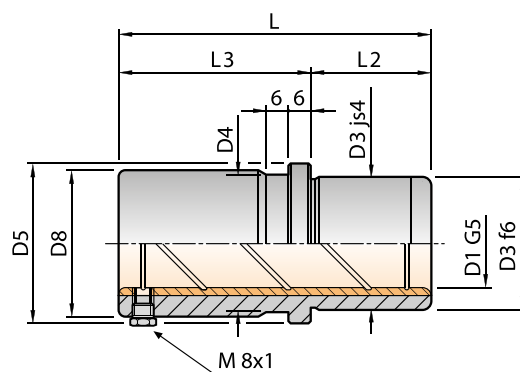
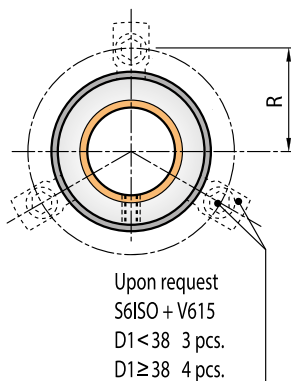
3D-CAD



HOW TO ORDER
BEPA * D1 * - * TYPE
(BEPA19-5)



TYPE 5



TYPE 1 - 4

D1	D3	D4	D5	D8	R	L	L2	L3	TYPE
19 - 20	32	32	40	---	26	35	23	12	5
				39		43		20	4
				---		59		36	1
24 - 25	40	40	48	---	30	35	23	12	5
				46		59		36	4
				---		79		56	1
30 - 32	48	48	56	---	33,5	42	30	12	5
				53		75		45	4
				---		93		63	1
38 - 40	58	58	66	---	38,5	52	37	15	5
				63		82		45	4
				---		108		71	1
48 - 50	70	70	80	---	45,5	65	47	18	5
				77		97		50	4
				---		127		80	1
60 - 63	85	85	95	---	53	80	60	20	5
				92		116		56	4
				---		150		90	1
80	105	105	118	---	64,5	80	60	20	5
				115		120		60	4
				---		150		90	1

BEPA PLUS

BRONZE PLATED DEMOUNTABLE BUSH

FÜHRUNGSBUCHSE MIT BUND BRONZEPLATTIERT | BUSSOLA ESTRAIBILE RIVESTIMENTO BRONZO

ISO 9448-6



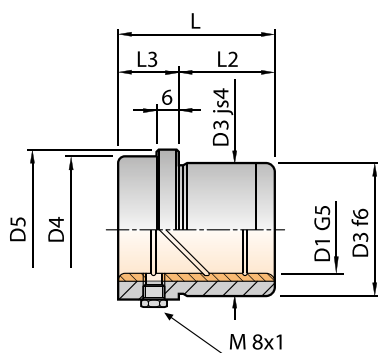
Material: C45 - Bronze
Hardness: 54÷58 HRC (induction)
Execution: inner diameter bronze coated, honed; D3 fine ground



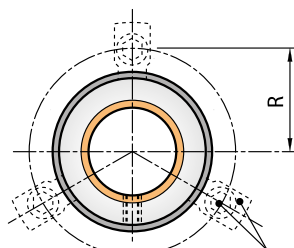
3D-CAD



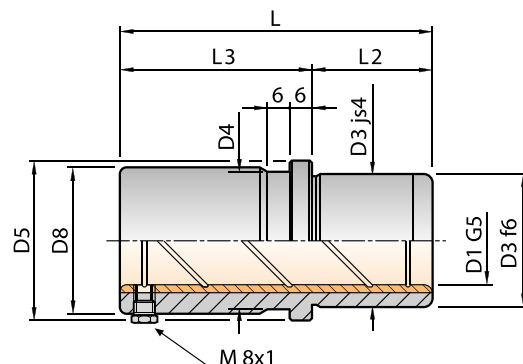
HOW TO ORDER
BEPA * D1 * - * TYPE
(BEPA19-5P)



TYPE 5 P



Upon request
 S6ISO + V615
 D1 < 38 3 pcs.
 D1 ≥ 38 4 pcs.



TYPE 1P - 4P

D1	D3	D4	D5	D8	R	L	L2	L3	TYPE
19 - 20	32	32	40	---	26	35	23	12	5P
				39		43		20	4P
				---		59		36	1P
24 - 25	40	40	48	---	30	35	23	12	5P
				46		59		36	4P
				---		79		56	1P
30 - 32	48	48	56	---	33,5	42	30	12	5P
				53		75		45	4P
				---		93		63	1P
38 - 40	58	58	66	---	38,5	52	37	15	5P
				63		82		45	4P
				---		108		71	1P
48 - 50	70	70	80	---	45,5	65	47	18	5P
				77		97		50	4P
				---		127		80	1P
60 - 63	85	85	95	---	53	80	60	20	5P
				92		116		56	4P
				---		150		90	1P
80	105	105	118	---	64,5	80	60	20	5P
				115		120		60	4P
				---		150		90	1P

BGEA

BRONZE DEMOUNTABLE BUSH WITH SOLID LUBRICANT RINGS

FÜHRUNGSBUCHSE MIT BUND BRONZE MIT FESTSCHMIERSTOFFRINGEN

BUSSOLA ESTRAIBILE BRONZO CON INSERTI IN GRAFITE

ISO 9448-6



Material: bronze + graphite

Hardness: -

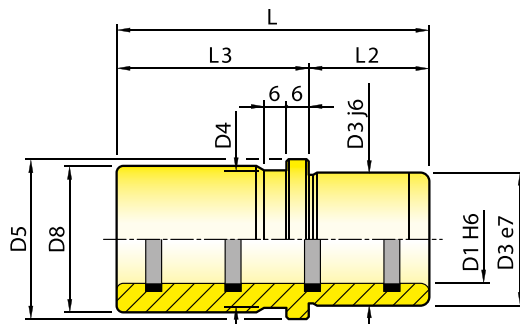
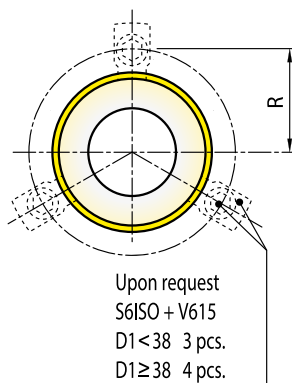
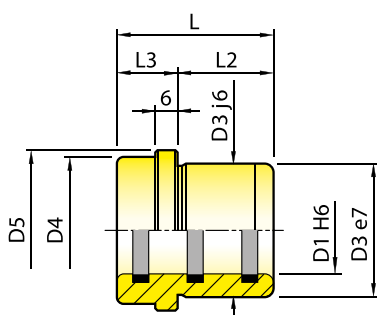
Execution: inner diameter and D3 fine ground



3D-CAD



HOW TO ORDER
 BGEA * D1 * - * TYPE
 (BGEA19-5)



D1	D3	D4	D5	D8	R	L	L2	L3	TYPE
19 - 20	32	32	40	---	26	35	23	12	5
				39		43		20	4
				---		59		36	1
24 - 25	40	40	48	---	30	35	23	12	5
				46		59		36	4
				---		79		56	1
30 - 32	48	48	56	---	33,5	42	30	12	5
				53		75		45	4
				---		93		63	1
38 - 40	58	58	66	---	38,5	52	37	15	5
				63		82		45	4
				---		108		71	1
48 - 50	70	70	80	---	45,5	65	47	18	5
				77		97		50	4
				---		127		80	1
60 - 63	85	85	95	---	53	80	60	20	5
				92		116		56	4
				---		150		90	1
80	105	105	118	---	64,5	80	60	20	5
				115		120		60	4
				---		150		90	1

B5BA

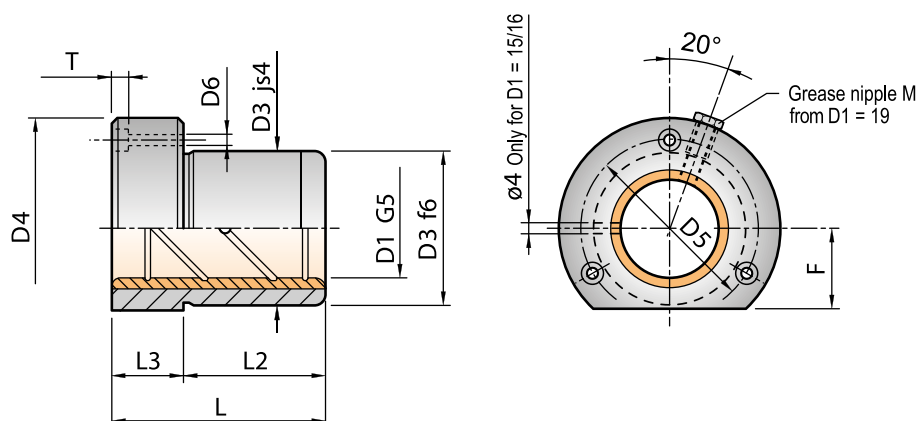
STEEL/BRONZE FLANGED GUIDE BUSH

FÜHRUNGSBUCHSE MIT FLANSCH MIT BRONZEEINSATZ | BUSSOLA A COLLARE CON FORI DI FISSAGGIO ACCIAIO/BRONZO

ISO 9448-4



Material: 1.7131 - Bronze Hardness: 52÷54 HRC Execution: inner diameter bronze insert, honed; D3 fine ground	STOCK	3D-CAD	HOW TO ORDER B5BA * D1 * - * TYPE (B5BA15-4)
---	-------	--------	--



D1	D3	D4	D5	D6	T	F	L	L2	L3	TYPE
15 - 16	28	45	35	4,5	3,4	15	29	23	6	4
							36	30		2
19 - 20	32	50	40	4,5	4,6	18	38	23	15	4
							45	30		2
							52	37		1
24 - 25	40	63	50	5,5	5,7	23	38	23	25	4
							55	30		2
							62	37		1
30 - 32	48	72	58	5,5	5,7	28	45	30	15	4
							62	37		2
							72	47		1
38 - 40	58	85	70	6,6	6,8	33	55	30	30	4
							67	37		2
							77	47		1
48 - 50	70	104	86	9	9	38	62	37	25	4
							89	47		2
							102	60		1
60 - 63	85	120	100			46	89	47	42	2
							102	60		1
80	105	148	125	11	11	56	125	75	50	1

BEA

SELF-LUBE DEMOUNTABLE BUSH

SELBSTSCHMIERENDE FÜHRUNGSBUCHSE MIT BUND | BUSSOLA ESTRAIBILE AUTOLUBRIFICANTE

ISO 9448-6

ENSCOAT



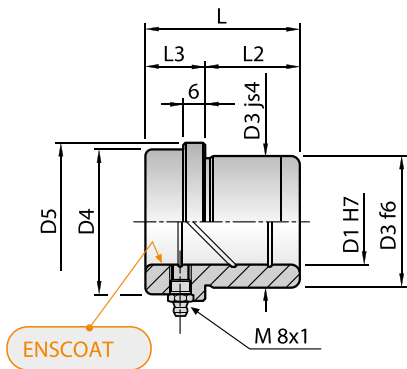
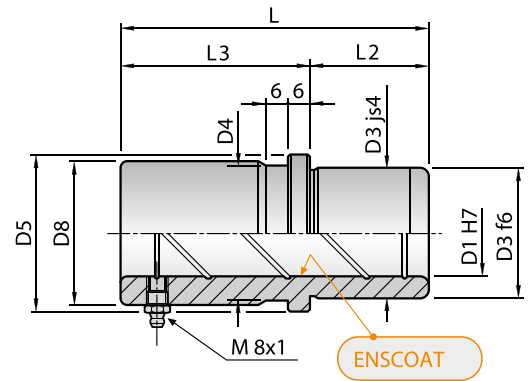
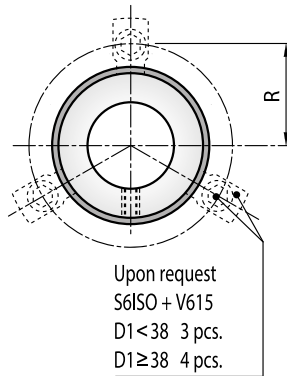
Material: 1.7131
Hardness: 61÷63 HRC
Execution: inner diameter honed, ENSCOAT coated; D3 fine ground

STOCK

3D-CAD



HOW TO ORDER
BEA * D1 * - * TYPE
(BEA19-5)


TYPE 5 P

TYPE 1 - 4

D1	D3	D4	D5	D8	R	L	L2	L3	TYPE
19 - 20	32	32	40	---	26	35	23	12	5
				39		43		20	4
						59		36	1
24 - 25	40	40	48	---	30	35	23	12	5
				46		59		36	4
						79		56	1
30 - 32	48	48	56	---	33,5	42	30	12	5
				53		75		45	4
						93		63	1
38 - 40	58	58	66	---	38,5	52	37	15	5
				63		82		45	4
						108		71	1
48 - 50	70	70	80	---	45,5	65	47	18	5
				77		97		50	4
						127		80	1
60 - 63	85	85	95	---	53	80	60	20	5
				92		116		56	4
						150		90	1

B5A

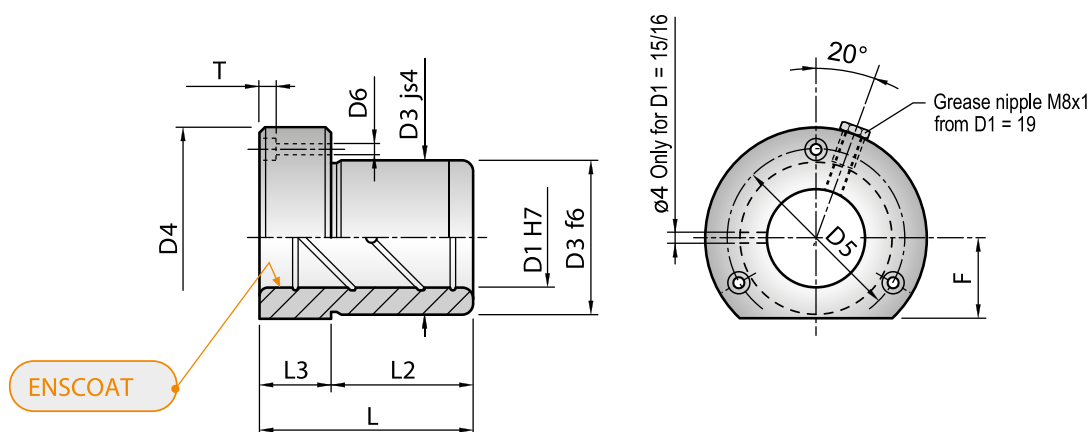
SELF LUBE FLANGED GUIDE BUSH

SELBSTSCHMIERENDE FÜHRUNGSBUCHSE MIT FLANSCH | BUSSOLA A COLLARE AUTOLUBRIFICANTE

ISO 9448-4

ENSCOAT

Material: 1.7131 Hardness: 61÷63 HRC Execution: inner diameter honed, ENSCOAT coated; D3 fine ground	STOCK	3D-CAD	HOW TO ORDER B5A * D1 * - * TYPE (B5A15-4)
---	-------	--------	--

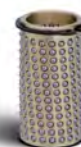


D1	D3	D4	D5	D6	T	F	L	L2	L3	TYPE
15 - 16	28	45	35	4,5	3,4	15	29	23	6	4
							36	30		2
19 - 20	32	50	40	4,5	4,6	18	38	23	15	4
							45	30		2
							52	37		1
24 - 25	40	63	50	5,5	5,7	23	38	23	25	4
							55	30		2
							62	37		1
30 - 32	48	72	58	5,5	5,7	28	45	30	15	4
							62	37		2
							72	47		1
38 - 40	58	85	70	6,6	6,8	33	55	30	25	4
							67	37		2
							77	47		1
48 - 50	70	104	86	9	9	38	62	37	30	4
							89	47		2
							102	60		1
60 - 63	85	120	100	9	9	46	89	47	42	2
							102	60		1
							102	60		1
80	105	148	125	11	11	56	125	75	50	1

GSA

BALL CAGE WITH CIRCLIP GROOVE

KUGELKÄFIG MIT SICHERUNGSRING | GABBIA A SFERE CON SCANALATURA PER ANELLO D'ARRESTO



Material: Cage: brass; Balls: hardened steel conforming to DIN 5401
Hardness: -
Execution: -

• STOCK

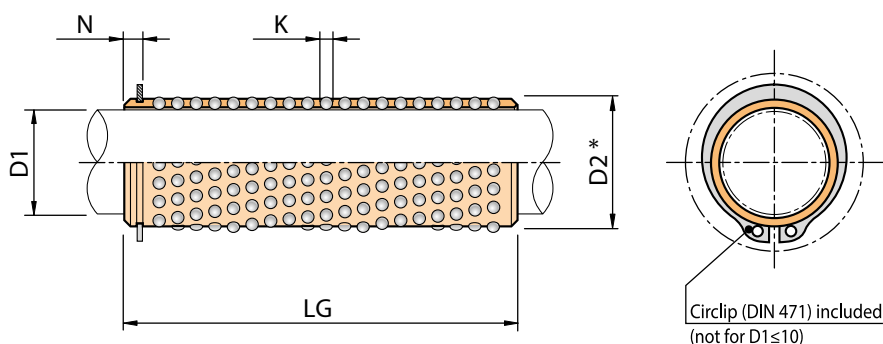


3D-CAD



HOW TO ORDER

GSA * D1 * LG (GSA310)



* D2 = D1 + 2K

◇ 000 / • 000 = No. of balls

D1	K	N	LG																							
			10	15	20	25	30	31	40	45	50	56	63	71	75	80	95	105	120	140	160	180	200	240		
3	1	--	◇ 24	◇ 36	◇ 54																					
4		--	◇ 28	◇ 42	◇ 63	◇ 77																				
5		--	◇ 32	◇ 48	◇ 72	◇ 88	◇ 112																			
6		--	◇ 36	◇ 54	◇ 81	◇ 99	◇ 126																			
8		--	◇ 40	◇ 60	◇ 90	◇ 110	◇ 140		◇ 190																	
10	2	--		◇ 56	◇ 70	◇ 84	◇ 112		◇ 154																	
12		2,2			◇ 80	◇ 96	• 128		• 176			• 272														
15 - 16	3	2,9						• 96	• 128	• 144		• 192	• 224	• 256												
18										• 180		• 240		• 320												
19 - 20								• 120		• 180		• 240		• 320		• 360	• 440									
24 - 25		3,2							• 160	• 180		• 240		• 320		• 360	• 440	• 500	• 560							
30 - 32	4	3,95							• 120	• 140	• 160	• 180		• 240	• 260	• 280	• 340	• 380	• 440	• 520	• 600					
38 - 40										• 168	• 192	• 216	• 264			• 336	• 408	• 456	• 528	• 624	• 720	• 816	• 912	• 1104		
48 - 50			4,25									• 224		• 308			• 392	• 476	• 532	• 616	• 728	• 840	• 952	• 1064	• 1288	
60 - 63		4,75															• 544	• 608	• 704	• 832	• 960	• 1088	• 1216	• 1472		
80	6	6,15																	• 540	• 648	• 756	• 864	• 972	• 1152		

GSAB

BALL CAGE WITH STOP GROOVE

KUGELKÄFIG MIT KÄFIGHALTER | GABBIA A SFERE CON BLOCCAGGIO



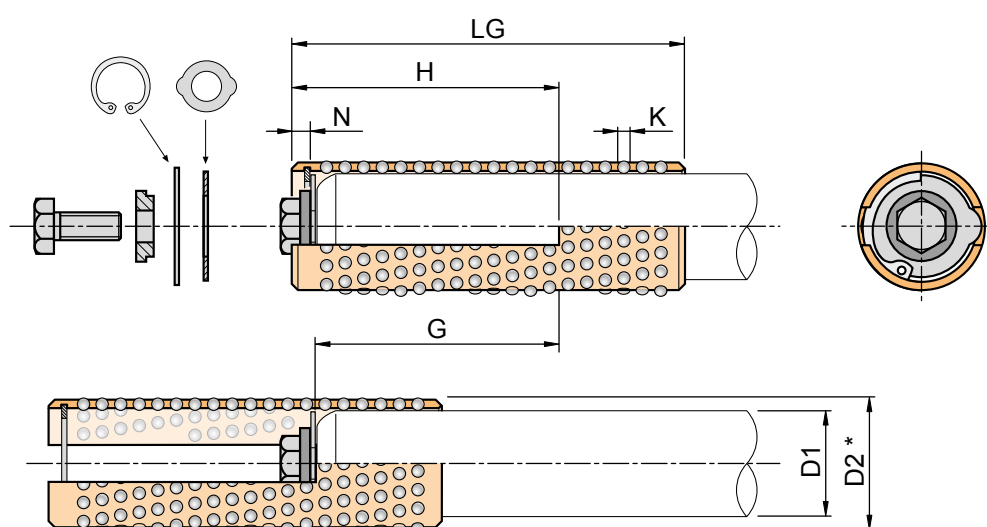
Material: Cage: brass; Balls: hardened steel conforming to DIN 5401
Hardness: -
Execution: -

STOCK

3D-CAD



HOW TO ORDER
GSAB * D1 * LG
 (GSAB1956)



* D2 = D1 + 2K

• 000 = No. of balls

D1	K	G	H	N	LG								
					56	70	72	80	95	105	120	140	
19 - 20	3	26,9	31	2,6	• 184								
		36,9	41				• 240						
		46,9	51					• 264					
24 - 25		26,9	31		• 184								
36,9		41				• 240							
46,9		51					• 264						
30 - 32	4	36,9	41	3,5		• 184							
		46,9	51					• 208					
									• 252				
									• 284				
38 - 40		45,5	51					• 264					
55,5		61					• 320						
48 - 50		67,5	73	4,3							• 368		
		44,7	51					• 320				• 416	
		54,7	61						• 388				
60 - 63		66,7	73							• 444			
54,7		61									• 504		
66,7		73						• 456					
80	6	76,7	83	5							• 592		
		54	61						• 368				• 704
		66	73								• 460		
		76	83										• 560

GSAP

PLASTIC BALL CAGE

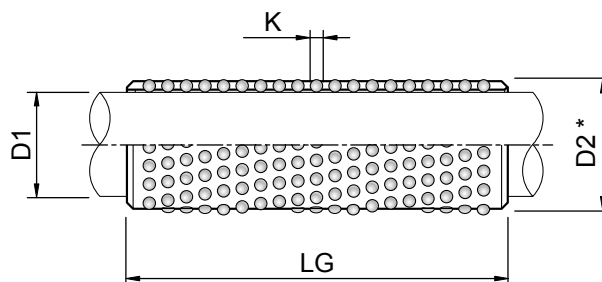
KUGELKÄFIG AUS KUNSTSTOFF | GABBIA A SFERE IN PLASTICA



Material: Cage: polyacetat; Balls: hardened steel conforming to DIN 5401
 Hardness: -
 Execution: -



HOW TO ORDER
 GSAP * D1 * LG (GSAP1010)



* D2 = D1 + 2K

◇ 000 = No. of balls

D1	K	LG														
		30	38	43	54	58	63	68	74	83	88	90	94	103	108	128
10 - 12	2	◇ 117	◇ 153	◇ 171												
15 - 16	3	◇ 72	◇ 99	◇ 108	◇ 144		◇ 180									
19 - 20		◇ 88	◇ 126	◇ 132	◇ 176		◇ 220		◇ 253							
24 - 25		◇ 104	◇ 143	◇ 156	◇ 208		◇ 260		◇ 299	◇ 338		◇ 364				
30 - 32	4		◇ 117	◇ 130	◇ 182	◇ 196		◇ 234	◇ 260	◇ 299	◇ 302			◇ 377	◇ 390	
38 - 40			◇ 144	◇ 160		◇ 240		◇ 288			◇ 384		◇ 416		◇ 480	◇ 576

GR

ROLLER CAGE

ROLLENKÄFIG | GABBIA A RULLI



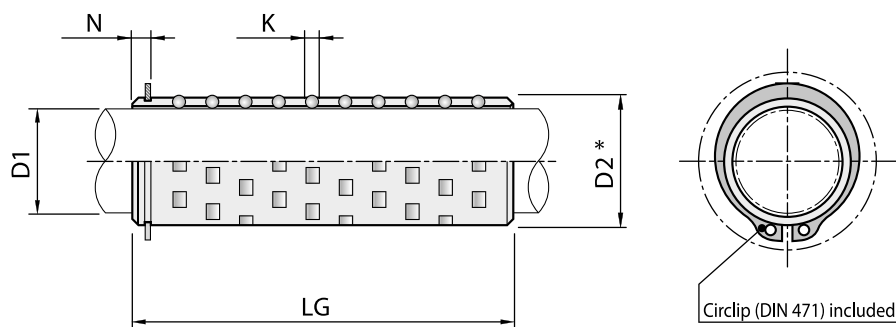
Material: Cage: Aluminum; Rollers: hardened steel conforming to DIN 5402
Hardness: -
Execution: -



3D-CAD



HOW TO ORDER

GR * D1 * LG (GR1541)


* $D2 = D1 + 2K$

◇ 000 = No. of rollers

D1	K	N	LG																				
			41	45	49	55	65	75	85	95	105	113	115	125	135	138	145	155	156	165	175	185	205
15 - 16	3	2,9	◇ 32		◇ 40																		
19 - 20				◇ 32		◇ 40	◇ 48	◇ 56	◇ 64	◇ 72	◇ 80												
24 - 25		3,2		◇ 40		◇ 50	◇ 60	◇ 70	◇ 80	◇ 90	◇ 100		◇ 110	◇ 120	◇ 130								
30 - 32	4	3,95		◇ 48		◇ 60	◇ 72	◇ 84	◇ 96	◇ 108	◇ 120		◇ 132	◇ 144	◇ 156		◇ 168	◇ 180		◇ 192			
38 - 40					◇ 70	◇ 84	◇ 98	◇ 112	◇ 126	◇ 140		◇ 154	◇ 168	◇ 182		◇ 196	◇ 210		◇ 224	◇ 238	◇ 252	◇ 280	
48 - 50		4,25					◇ 108	◇ 126	◇ 144	◇ 162	◇ 180		◇ 198	◇ 216	◇ 234		◇ 252	◇ 270		◇ 288	◇ 306	◇ 324	◇ 360
60 - 63		4,75						◇ 154	◇ 176	◇ 198	◇ 220		◇ 242	◇ 264	◇ 286		◇ 308	◇ 330		◇ 352	◇ 374	◇ 396	◇ 440
80	6	6,15										◇ 128		◇ 144		◇ 160	◇ 176		◇ 192			◇ 224	◇ 256

RTI

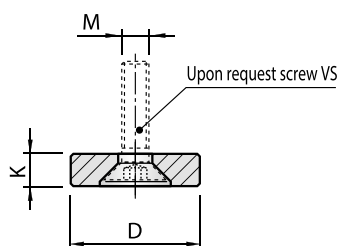
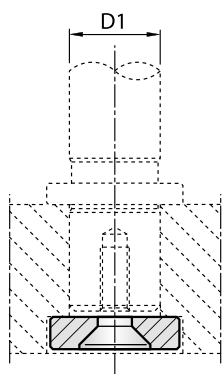
WASHER FOR CEAIN/CEAQIN

HALTESCHEIBE FÜR CEAIN/CEAQIN | RONDELLA PER CEAIN/CEAQIN


 Material: 1.1730
 Hardness: -
 Execution: -

STOCK

3D-CAD


 HOW TO ORDER
 RTI * D (RTI22)


D	D1	K	M
22	15 - 16	6	M8
25	19 - 20		
32	24 - 25		
40	30 - 32		
50	38 - 40		
60	48 - 50		
70	60 - 63	12	M12
93	80		

S-ISO

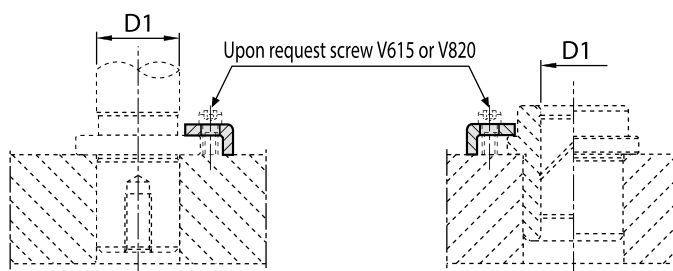
RETAINING CLAMPS

HALTESTÜCKE | STAFFETTE DI RITEGNO

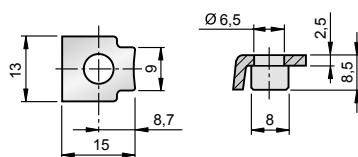
 Material: steel
 Hardness: -
 Execution: -

STOCK

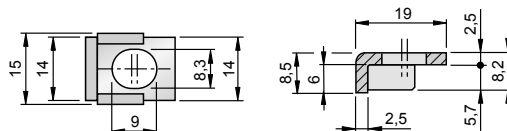
3D-CAD


 HOW TO ORDER
 CODE (S6ISO)


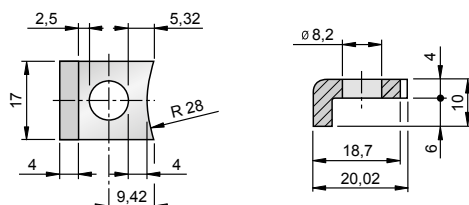
S6ISO



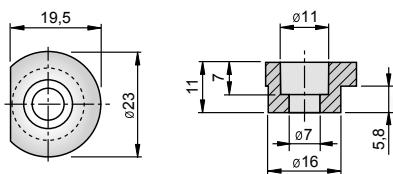
S8ISO



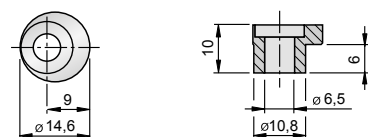
S8PISO



S23ISO



S5270



CODE	D1	QUANTITY
S6ISO S8ISO S8PISO	< 38	3
	≥ 38	4
S5270		
S23ISO	ALL DIAMETERS	3

V

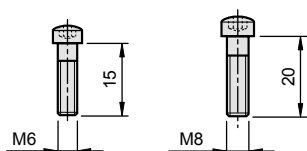
SCREWS FOR CLAMPS

SCHRAUBE | VITI PER STAFFETTE

ISO 7380



STOCK	3D-CAD 		HOW TO ORDER CODE (V615)
-------	---	---	-----------------------------



CODE	M
V615	M6x15
V820	M8x20

VS

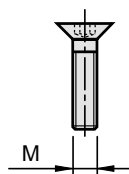
SCREWS FOR WASHERS

SCHRAUBE FÜR HALTESCHEIBE | VITI PER RONDELLE

DIN 7991 / ISO 10642



STOCK	3D-CAD 		HOW TO ORDER CODE (VS820)
-------	---	---	------------------------------



CODE	M
VS820	M8x20
VS1020	M10x20
VS1230	M12x30

CAU

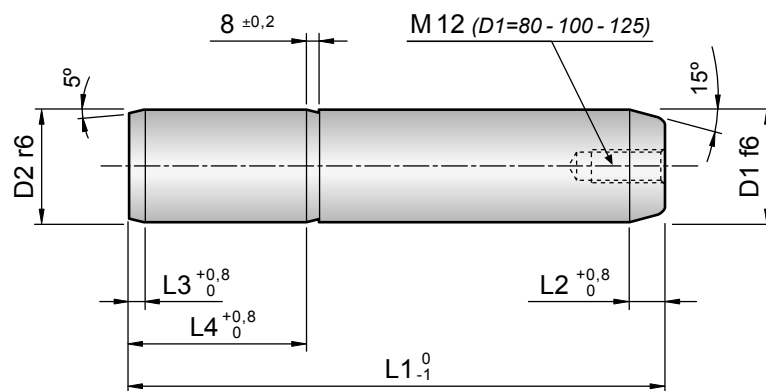
GUIDE PILLAR DIN 9833

FÜHRUNGSSÄULE DIN 9833 | COLONNA DIN 9833

DIN 9833 / ISO 9182-3



Material: steel Hardness: 60÷64 HRC Execution: fine ground	STOCK	3D-CAD 	HOW TO ORDER CAU * D1 * L1 (CAU25125)
---	-------	------------	--



D1	D2	L2	L3	L4	L1													
					125	140	160	180	200	224	250	280	315	355	400	450	500	
25	25	8	4	40	•	•	•	•	•	•								
32	32			45	•	•	•	•	•	•	•							
40	40			56		•	•	•	•	•	•	•						
50	50	10		70			•	•	•	•	•	•	•	•				
63	63			80				•	•	•	•	•	•	•	•			
80	80			100					•	•	•	•	•	•	•	•	•	•
100	100			125						•	•	•	•	•	•	•	•	•
125	125	12	5	140									•	•	•	•	•	

CAUBQ

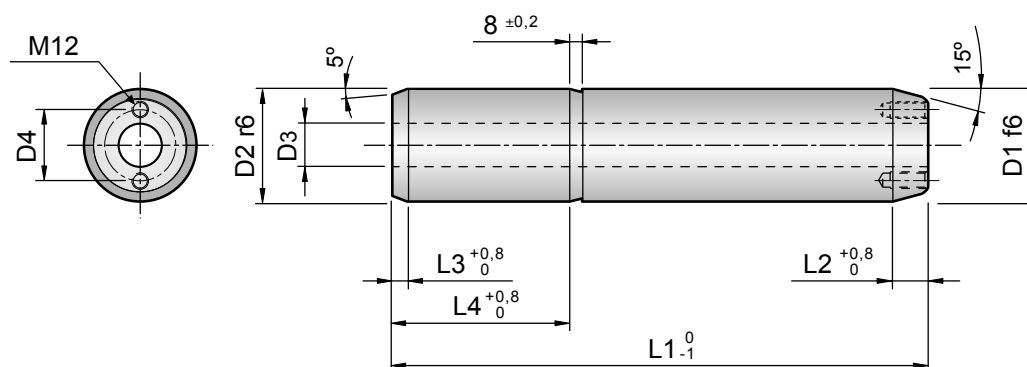
GUIDE PILLAR WITH HOLE DIN 9833

FÜHRUNGSSÄULE MIT HOHLBOHRUNG DIN 9833 | COLONNA FORATA DIN 9833

DIN 9833 / ISO 9182-3



Material: steel Hardness: 60÷64 HRC Execution: fine ground	STOCK	3D-CAD 	HOW TO ORDER CAUBQ * D1 * L1 (CAUBQ80200)
--	-------	------------	--



D1	D2	D3	D4	L2	L3	L4	L1								
							200	224	250	280	315	355	400	450	500
80	80	40	58	10	4	100	•	•	•	•	•	•	•	•	
100	100	50	72			125		•	•	•	•	•	•	•	
125	125	65	90	12	5	140				•	•	•	•	•	
160	160	95	132			180						•	•	•	•

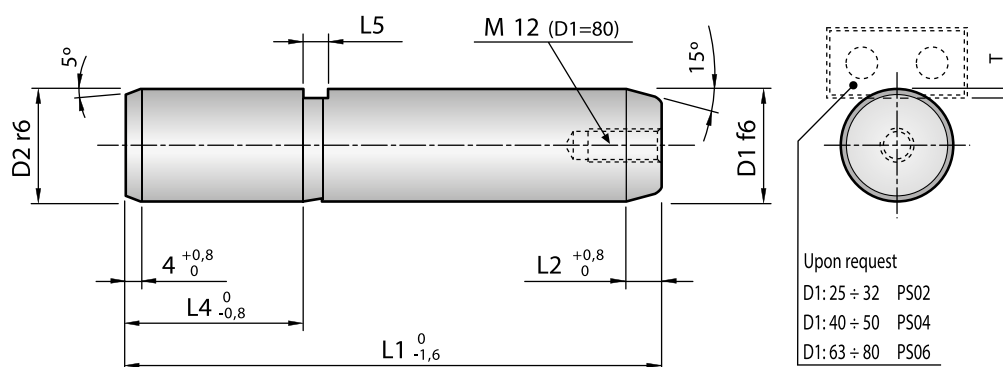
CAUR

GUIDE PILLAR WITH MILLING VW

FÜHRUNGSSÄULE MIT NUT VW | COLONNA CON FRESATURA VW

VW 39D969


Material: steel Hardness: 60÷64 HRC Execution: fine ground	STOCK	3D-CAD 	HOW TO ORDER CAUR * D1 * L1 (CAUR25125)
---	-------	------------	---



D1	D2	L2	L4	L5	T	L1												
						125	140	160	180	200	224	250	280	315	355	400	450	500
25	25	8	40	7	3	•	•	•	•	•	•							
32	32		45			•	•	•	•	•	•	•						
40	40	10	56	10	4		•	•	•	•	•	•	•					
50	50		70		5			•	•	•	•	•	•	•	•			
63	63		80	12	6,5				•	•	•	•	•	•	•	•		
80	80		100		8						•	•	•	•	•	•	•	•

CEOT

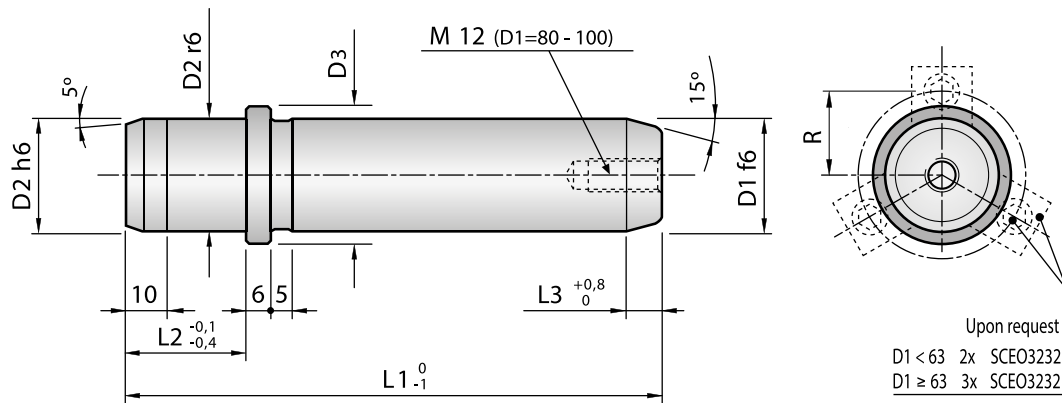
DEMOUNTABLE GUIDE PILLAR WDX

FÜHRUNGSSÄULE MIT BUND WDX | COLONNA ESTRAIBILE WDX

WDX 13-65-20



Material: steel Hardness: 60÷64 HRC Execution: fine ground	STOCK	3D-CAD 	HOW TO ORDER CEOT * D1 * L1 (CEOT25125)
--	-------	------------	--



D1	D2	D3	R	L2	L3	L1												
						125	140	160	180	200	224	250	280	315	355	400	500	
25	25	33	34	40	4	•	•	•	•	•	•							
32	32	40	37,5	45	8		•	•	•	•	•	•						
40	40	50	41,5	56				•	•	•	•	•	•					
50	50	60	46,5	70	10			•	•	•	•	•	•					
63	63	80	53	80						•	•	•	•	•	•	•		
80	80	90	61,5	100							•	•	•	•	•	•	•	•
100	100	110	71,5	125									•	•	•	•	•	•

CS

GUIDE PILLAR AFNOR

FÜHRUNGSSÄULE MIT HALTERINGEINSTICH AFNOR | COLONNA AFNOR

AFNOR



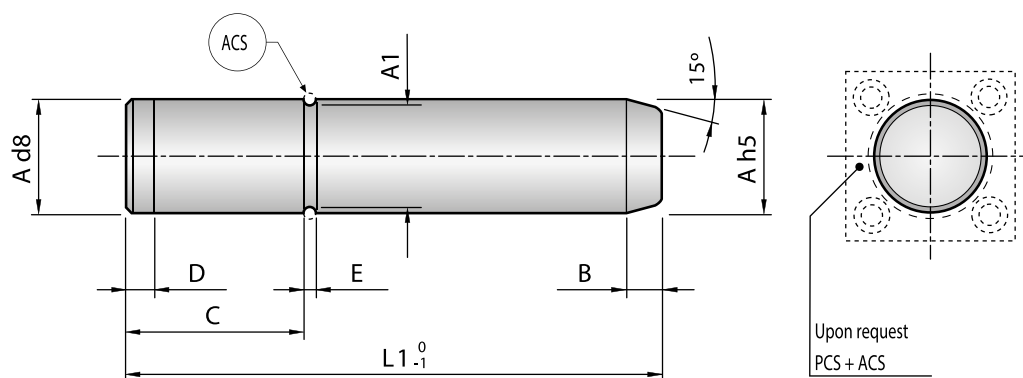
Material: steel
 Hardness: 60÷64 HRC
 Execution: fine ground

STOCK

3D-CAD



HOW TO ORDER
 CS * A * L1 (CS25100)



A	A1	B	C	D	E	L1														
						100	125	140	160	180	200	220	250	280	315	355	400	450	500	
25	22,3	8	25	8	2,7	•	•	•	•	•	•	•								
32	27,8	10	32	12	4,2		•	•	•	•	•	•	•							
40	35,8	12	63							•	•	•	•	•	•					
50	45,8	16	80	18	6,2					•	•	•	•	•	•	•				
63	56,8		100									•	•	•	•	•	•	•	•	•
80	73,8		125												•	•	•	•	•	•
100	93,8		160													•	•	•	•	•

CAUFCB

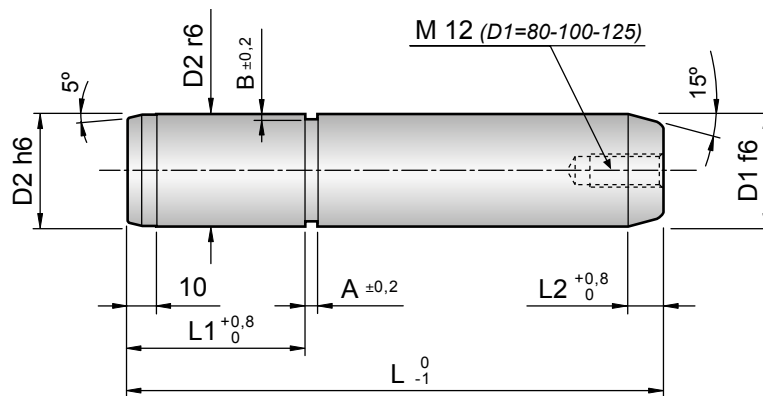
GUIDE PILLAR FCA

FÜHRUNGSSÄULE FCA | COLONNA FCA

FCA 065.90.70



Material: 1.7131 Hardness: 61÷63 HRC Execution: fine ground	DAYS 12	3D-CAD 	HOW TO ORDER CAUFCB * D1 * L (CAUFCB25100)
---	------------	------------	---



D1	D2	L1	L2	A	B	L													
						100	125	140	160	180	200	225	250	280	315	355	400	450	500
25	25	40	4	6	2,5	◇	◇	◇	◇	◇									
32	32	45	8			◇	◇	◇	◇	◇	◇								
40	40	56	10	9	3,5				◇	◇	◇	◇							
50	50	70							◇	◇	◇	◇	◇						
63	63	80		11	5,5					◇	◇	◇	◇	◇					
80	80	100										◇	◇	◇	◇	◇			
100	100	125												◇	◇	◇	◇	◇	
125	125	140				12									◇	◇	◇	◇	◇

CAUBQFCB

GUIDE PILLAR WITH HOLE FCA

FÜHRUNGSSÄULE MIT HOHLBOHRUNG FCA | COLONNA FORATA FCA

FCA 065.90.70

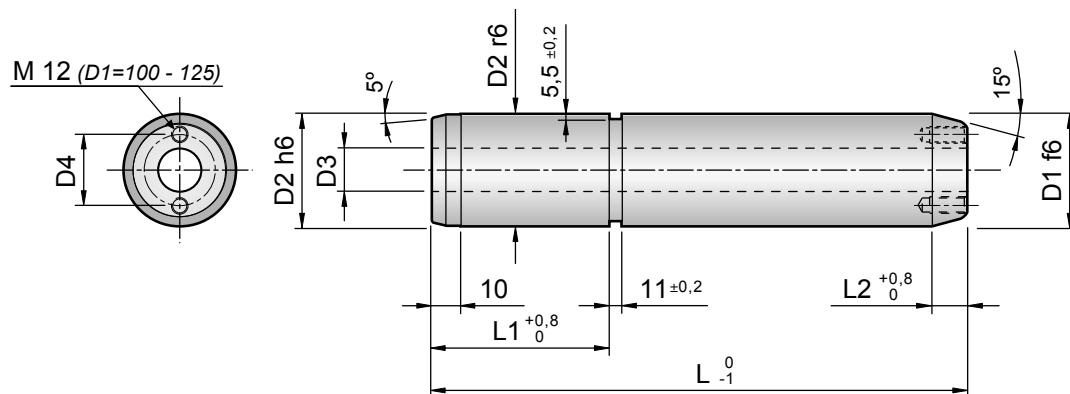


Material: 1.7131
Hardness: 61÷63 HRC
Execution: fine ground



HOW TO ORDER

CAUBQFCB * D1 * L (CAUBQFCB80250)



D1	D2	D3	D4	L1	L2	L							
						250	280	315	355	400	450	500	550
80	80	40	---	100	10	◇	◇	◇	◇	◇	◇	◇	◇
100	100	50	74	125				◇	◇	◇	◇	◇	◇
125	125	65	84	140	12				◇	◇	◇	◇	◇

CAUBQAM

GUIDE PILLAR WITH HOLE FCA

FÜHRUNGSSÄULE MIT HOHLBOHRUNG FCA | COLONNA FORATA FCA

FCA 065.90.80



Material: 1.7131

Hardness: 61÷63 HRC

Execution: fine ground



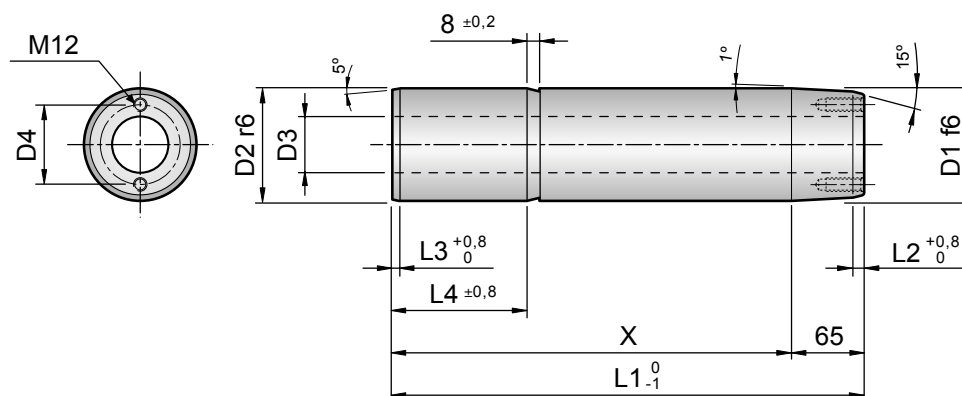
DAYS
12

3D-CAD



HOW TO ORDER

CAUBQAM * D1 * L1 (CAUBQAM100315)



D1	D2	D3	D4	L2	L3	L4	X	L1	
								315	355
100	100	50	72	10	4	125	250	◇	
							290		◇

CLO

GUIDE PILLAR GM

FÜHRUNGSSÄULE GM | COLONNA GM

GM 90.20.50



Material: steel
 Hardness: 60÷64 HRC
 Execution: fine ground

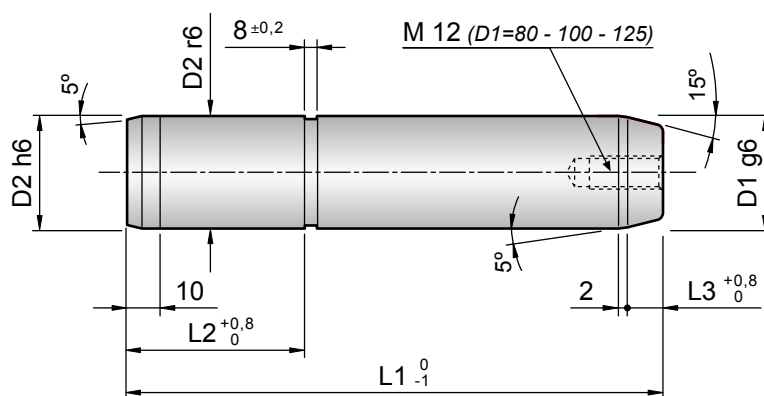


3D-CAD



HOW TO ORDER

CLO * D1 * L1 (CLO25125)



D1	D2	L2	L3	L1															
				125	140	160	180	200	224	250	280	315	355	400	450	500	550	600	650
25	25	40	8	◇	◇	◇	◇												
32	32	45			◇	◇	◇	◇											
40	40	56			◇	◇	◇	◇	◇	◇	◇								
50	50	70	10			◇	◇	◇	◇	◇	◇	◇	◇						
63	63	80					◇	◇	◇	◇	◇	◇	◇	◇	◇	◇			
80	80	100							◇	◇	◇	◇	◇	◇	◇	◇			
100	100	125								◇	◇	◇	◇	◇	◇	◇	◇	◇	◇
125	125	140	12									◇	◇	◇	◇	◇	◇	◇	◇

CLOT

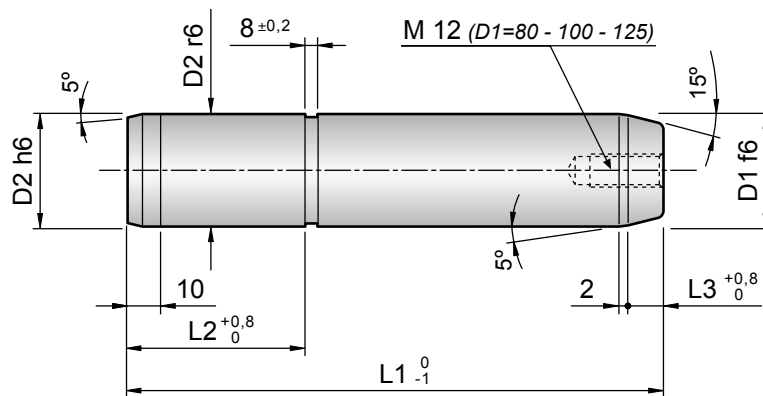
GUIDE PILLAR WDX

FÜHRUNGSSÄULE WDX | COLONNA WDX

WDX 13-65-22



Material: steel Hardness: 60÷64 HRC Execution: fine ground	 DAYS 12	 3D-CAD	 HOW TO ORDER CLOT * D1 * L1 (CLOT25140)
--	--	--	--



D1	D2	L2	L3	L1															
				140	160	180	200	224	250	280	300	315	355	360	400	450	500	550	600
25	25	40	4	◇	◇	◇													
32	32	45	8	◇	◇	◇	◇												
40	40	56	8	◇	◇	◇	◇	◇											
50	50	70	10		◇	◇	◇	◇	◇	◇		◇		◇					
63	63	80	10				◇	◇	◇	◇	◇	◇	◇		◇				
80	80	100	10						◇	◇		◇	◇		◇	◇	◇		
100	100	125	10									◇	◇		◇		◇	◇	◇

CAMI

GUIDE PILLAR MERCEDES

FÜHRUNGSSÄULE MERCEDES | COLONNA MERCEDES

B8 0450 200 009 001

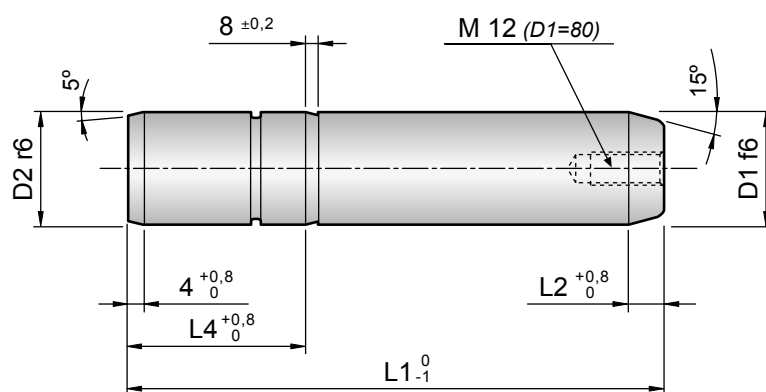


Material: steel
Hardness: 60÷64 HRC
Execution: fine ground



HOW TO ORDER

CAMI * D1 * L1 (CAMI40140)



D1	D2	L2	L4	L1								
				160	180	200	224	250	280	315	355	400
40	40	8	56	◇	◇	◇	◇	◇	◇			
50	50	10	70	◇	◇	◇	◇	◇	◇	◇	◇	
63	63		80		◇	◇	◇	◇	◇	◇	◇	◇
80	80		100				◇	◇	◇	◇	◇	◇

CAMBQI

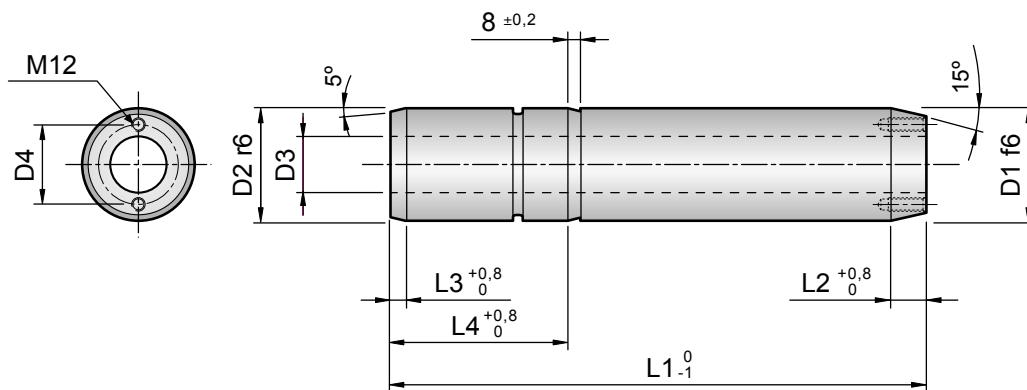
GUIDE PILLAR WITH HOLE MERCEDES

FÜHRUNGSSÄULE MIT HOHLBOHRUNG MERCEDES | COLONNA FORATA MERCEDES

B8 0450 200 009 001



Material: steel	 DAYS 12	3D-CAD 	HOW TO ORDER CAMBQI * D1 * L1 (CAMBQI100280)
Hardness: 60÷64 HRC			
Execution: fine ground			



D1	D2	D3	D4	L2	L3	L4	L1						
							280	315	355	400	450	500	560
100	100	50	72	10	4	125	◇	◇	◇	◇			
125	125	65	90	12	5	140			◇	◇	◇		
160	160	95	132			180				◇	◇	◇	◇

CAUWF

GUIDE PILLAR BMW

FÜHRUNGSSÄULE BMW | COLONNA BMW

B2 2920.001



Material: steel
Hardness: 60÷64 HRC
Execution: fine ground

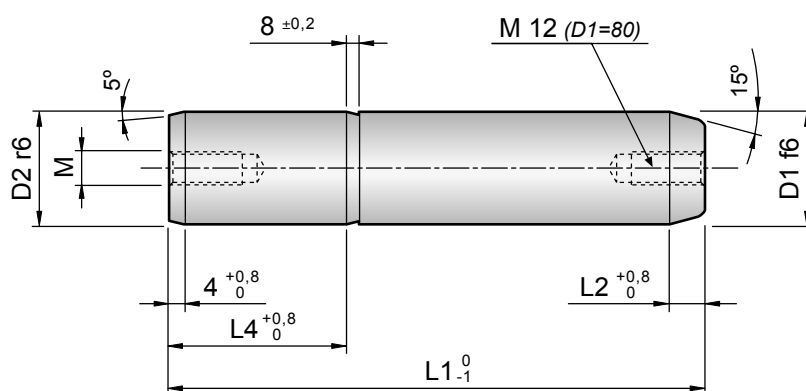


3D-CAD



HOW TO ORDER

CAUWF * D1 * L1 (CAUWF40160)



D1	D2	L2	L4	M	L1								
					160	180	200	224	250	280	315	355	400
40	40	8	56	M8	◇	◇	◇	◇	◇	◇			
50	50	10	70	M10	◇		◇		◇	◇	◇	◇	
63	63		80	M12			◇		◇	◇	◇	◇	◇
80	80		100	M16					◇	◇	◇	◇	

CAUWH

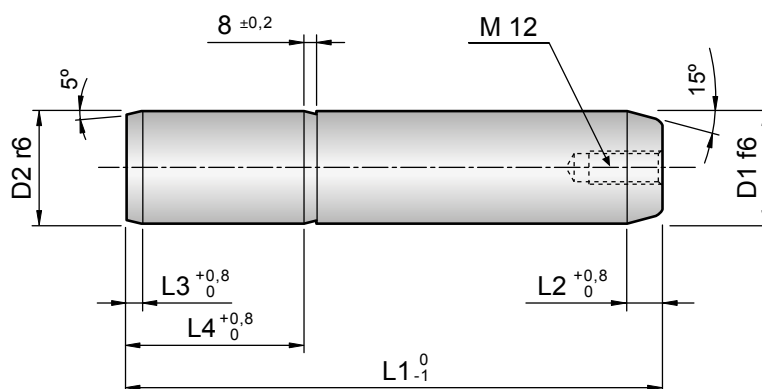
GUIDE PILLAR BMW

FÜHRUNGSSÄULE BMW | COLONNA BMW

B2 2920.001



Material: steel	 DAYS 12	3D-CAD 	HOW TO ORDER CAUWH * D1 * L1 (CAUWH80250)
Hardness: D1 60÷64 HRC			
Execution: fine ground			



D1	D2	L2	L3	L4	L1					
					250	280	315	355	400	450
80	80	10	4	100	◇	◇	◇	◇		
100	100			125		◇	◇	◇	◇	
125	125	12	5	140				◇	◇	◇

BG9834

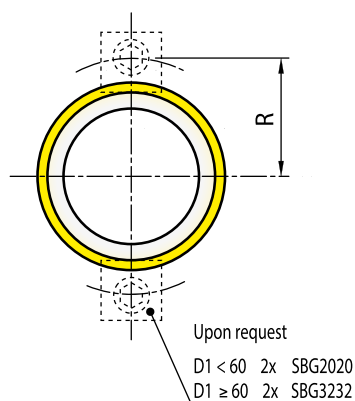
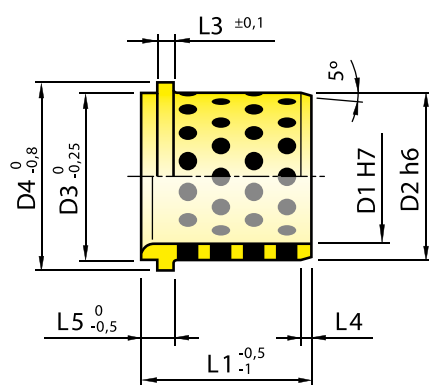
SELF-LUBRICATING BUSH DIN 9834

FÜHRUNGSBUCHSE BRONZE MIT FESTSCHMIERSTOFF DIN 9834 | BUSSOLA AUTOLUBRIFICANTE DIN 9834

DIN 9834 / ISO 9448



Material: bronze + graphite Hardness: - Execution: inner diameter and D2 fine ground	STOCK	3D-CAD 	HOW TO ORDER BG9834 * D1 (BG983425)
---	-------	------------	---



D1	D2	D3	D4	R	L3	L4	L5	L1								
								40	50	63	71	80	100	125	160	200
25	32	32	40	29	6,3	3	10	•								
32	40	40	50	33		4	12		•							
40	50	50	63	39,5		5	15			•						
50	63	63	71	44,5		6,3	17				•					
63	80	80	90	61,5	10	8	19				•					
80	100	100	112	71,5		10	22					•				
100	125	125	140	84		12,5	21						•			
125	160	160	180	101,5		16	30							•		
160	200	200	220	121,5			32									•

PS

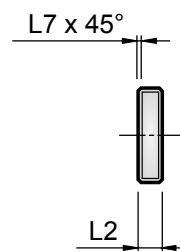
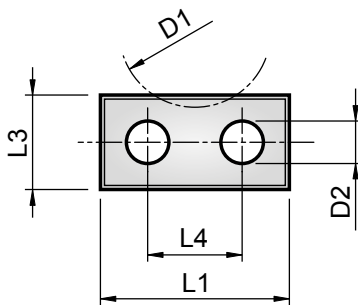
LOCATING PLATE VW

SICHERUNGSPLATTE FÜR FÜHRUNGSSÄULE NACH VW | PIASTRINA DI SICUREZZA VW

VW 39D856



Material: 1.1730 Hardness: - Execution: -	STOCK	3D-CAD 		HOW TO ORDER PS * TYPE (PS02)
---	-------	---	---	----------------------------------



D1	D2	L1	L2	L3	L4	L7	TYPE
25 - 32	9	40	5	20	20	1	02
40 - 50	11	48	8	25	24	2	04
63 - 80	14	60	10	34	30		06

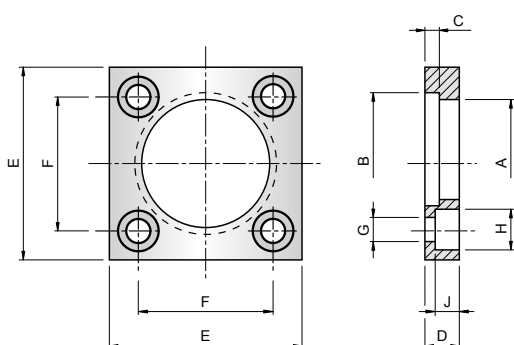
PCS

RETAINER FOR AFNOR GUIDE PILLAR

HALTESTÜCK FÜR AFNOR FÜHRUNGSSÄULE | STAFFA DI BLOCCAGGIO PER COLONNA AFNOR



Material: 1.1730 Hardness: - Execution: -	STOCK	3D-CAD 		HOW TO ORDER PCS * A (PCS25)
---	-------	------------	--	---------------------------------



A	B	G	H	J	D	C	E	F
25	28	6,6	11	7	10	2,7	45	31
32	37				12	4,2	56	36
40	45						70	50
50	55	9	15	9	14	6,2	80	55
63	70	11	18	11	18		100	70
80	87	13	20	14	20		110	80
100	107						140	100

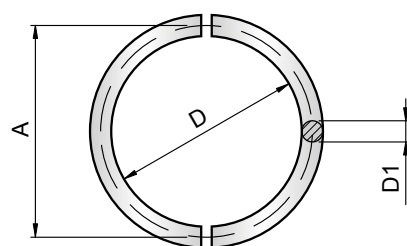
ACS

RING FOR AFNOR GUIDE PILLAR

TEDESCO HALTERING FÜR AFNOR FÜHRUNGSSÄULE | ANELLO DI TENUTA PER COLONNA AFNOR



Material: steel Hardness: - Execution: -	STOCK	3D-CAD 		HOW TO ORDER ACS * A (ACS25)
--	-------	------------	--	---------------------------------



A	D	D1
25	22,5	2,5
32	28	4
40	36	
50	46	
63	57	6
80	74	
100	94	

S-AUTO

RETAINING CLAMPS

HALTESTÜCKE | STAFFETTE DI RITEGNO

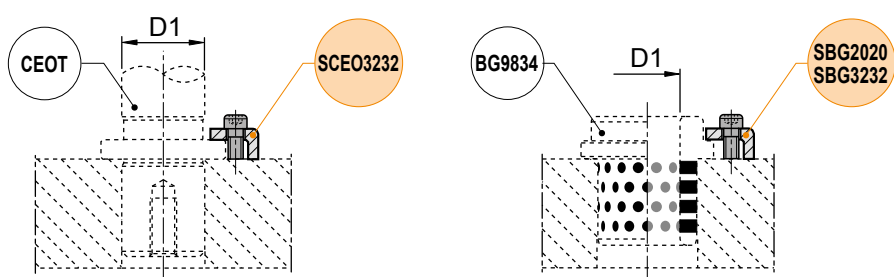
Material: steel
Hardness: -
Execution: -

STOCK

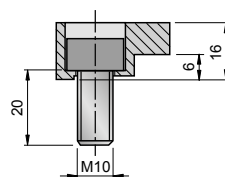
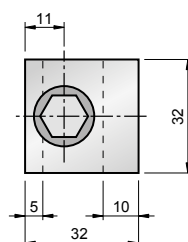
3D-CAD



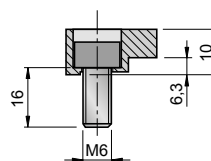
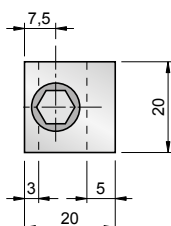
HOW TO ORDER
CODE (SCEO3232)



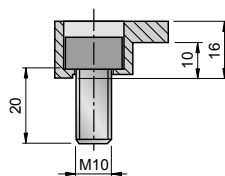
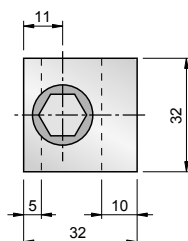
SCEO3232



SBG2020



SBG3232



CODE	D1	QUANTITY
SCEO3232	< 63	2
	≥ 63	3
SBG2020	< 60	2
SBG3232	≥ 60	

C3

HEAD PILOT PIN

FÜHRUNGSSÄULE | COLONNA CON TESTA

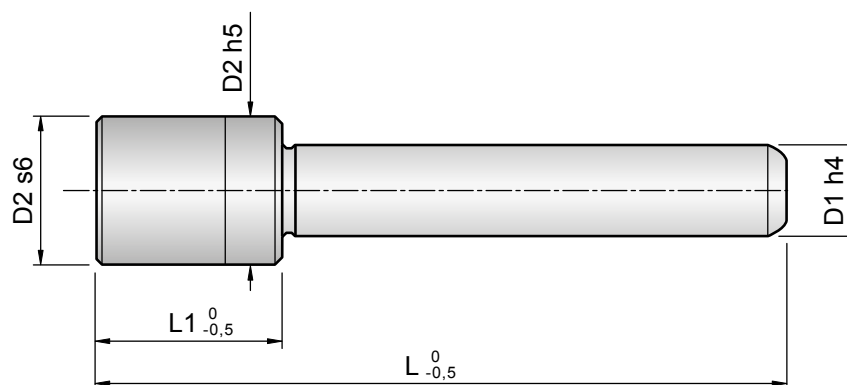


Material: 1.7131
 Hardness: 61÷63 HRC
 Execution: fine ground

STOCK



HOW TO ORDER
 C3 * D1 * L (C31585)



D1	D2	L1	L																	
			85	95	105	115	125	135	145	155	170	185	200	225	250	275	300	325	350	400
15 - 16	26	30	•	•	•	•	•	•	•	•										
17 - 18	28		•	•	•	•		•	•	•	•									
19 - 20	30	30	•	•	•															
		35				•	•	•	•	•	•	•								
24 - 25	36	40				•	•	•												
30 - 31	45						•	•	•	•	•	•	•	•	•					
		45						•	•		•	•	•	•	•	•	•			
40 - 41	55	60							•	•										
50 - 51	70	70										•	•	•	•	•	•	•	•	•
												•	•	•	•	•	•	•	•	•

C4

SMOOTH PILOT PIN

FÜHRUNGSSÄULE | COLONNA SENZA TESTA

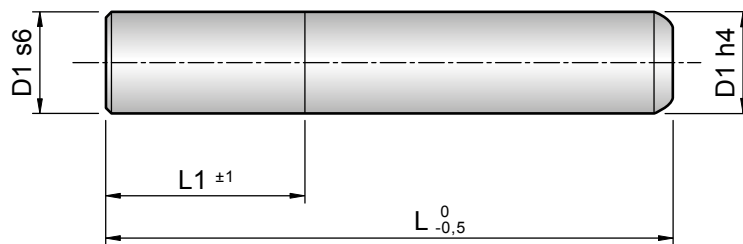


Material: 1.7131
 Hardness: 61÷63 HRC
 Execution: fine ground

STOCK



HOW TO ORDER
 C4 * D1 * L (C41585)



D1	L1	L																	
		85	95	105	115	125	135	145	155	170	185	200	225	250	275	300	325	350	400
15 - 16	16	•	•	•	•	•	•	•	•										
17 - 18	18	•	•	•	•	•	•	•	•	•	•								
19 - 20	20	•	•	•	•	•	•	•	•	•	•								
24 - 25	25				•	•	•	•	•	•	•	•	•						
30 - 31	30				•	•	•	•	•	•	•	•	•	•	•				
40 - 41	40							•	•	•	•	•	•	•	•	•	•	•	•
50 - 51	50									•	•	•	•	•	•	•	•	•	•
63	63													•	•	•		•	•

C5

GUIDE PILLAR WITH TAPER LEAD

FÜHRUNGSSÄULE MIT KONISCHEM SCHAFT | COLONNA CONICA



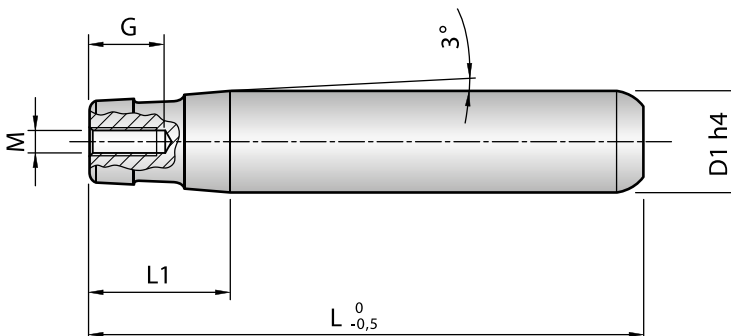
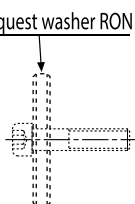
Material: 1.7131
 Hardness: 61÷63 HRC
 Execution: fine ground

STOCK



HOW TO ORDER
 C5 * D1 * L (C524115)

Upon request washer RON



D1	L1	M	G	L									
				115	135	155	170	185	200	225	250	300	400
24 - 25	48	8	20	•	•	•	•	•	•	•	•	•	•
30 - 31	57				•	•	•	•	•	•	•	•	•
40 - 41	63	10	25				•	•	•	•	•	•	•
50 - 51	80							•	•	•	•	•	•
63	86								•	•	•	•	•

RON

WASHER FOR PILLAR C5

SCHEIBE FÜR FÜHRUNGSSÄULE C5 | RONDELLA PER COLONNA C5

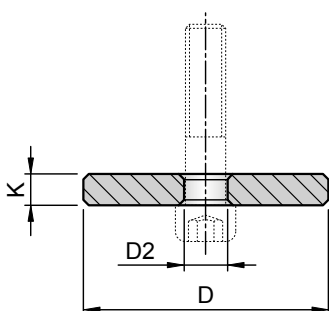


Material: 1.1730
 Hardness: -
 Execution: -

STOCK



HOW TO ORDER
 RON * D (RON28)



D	D2	K
28	8,7	6
36		
43		
53	10,7	8
70		

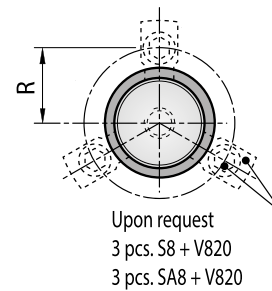
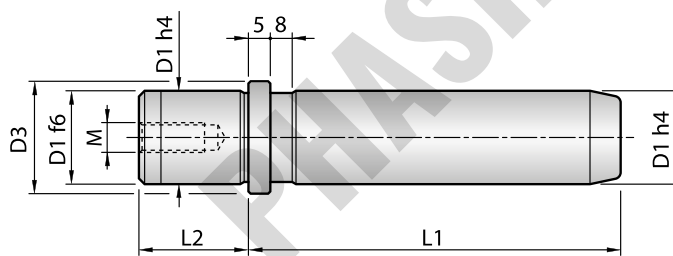
CEBT

DEMOUNTABLE GUIDE PILLAR

FÜHRUNGSSÄULE MIT BUND | COLONNA ESTRAIBILE



Material: 1.7131 Hardness: 61÷63 HRC Execution: fine ground	STOCK	 HOW TO ORDER CEBT * D1 * L1 (CEBT63130)
--	-------	--



D1	D3	R	M	L2	L1													
					130	140	150	160	170	180	200	220	240	260	280	300	320	360
63	77	43,5	M12	49	•	•	•	•	•	•	•	•	•	•	•	•	•	•

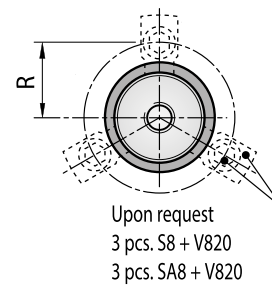
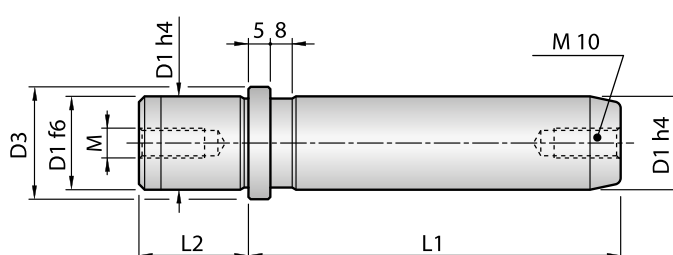
CEBTIN

DEMOUNTABLE GUIDE PILLAR

FÜHRUNGSSÄULE MIT BUND | COLONNA ESTRAIBILE



Material: Steel Hardness: 60 ÷ 63 HRC (induction) Execution: fine ground	STOCK	 HOW TO ORDER CEBTIN * D1 * L1 (CEBTIN63130)
---	-------	--



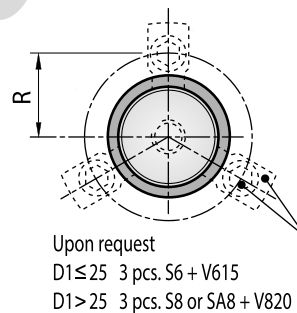
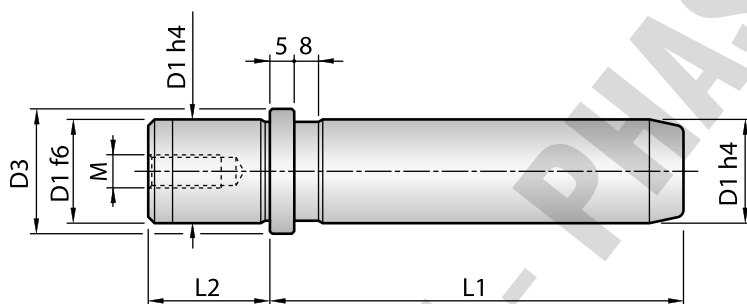
D1	D3	R	M	L2	L1													
					130	140	150	160	170	180	200	220	240	260	280	300	320	360
63	77	43 5	M12	49	•	•	•	•	•	•	•	•	•	•	•	•	•	•

CE

DEMOUNTABLE GUIDE PILLAR

FÜHRUNGSSÄULE MIT BUND | COLONNA ESTRAIBILE

Material: 1.7131 Hardness: 61÷63 HRC Execution: fine ground	STOCK	 HOW TO ORDER CE * D1 * L1 (CE18100)
--	-------	---



D1	D3	R	M	L2	L1																	
					100	110	120	130	140	150	160	170	180	200	220	240	260	280	300	320	360	400
18 - 19	25	16,5	M8	20	•	•	•	•	•	•	•											
24 - 25	32	20	M10	25	•	•	•	•	•	•	•	•	•									
30 - 32	40	25		30	•	•	•	•	•	•	•	•	•	•	•	•	•					
40 - 42	50	30	M12	35	•	•	•	•	•	•	•	•	•	•	•	•	•	•				
50 - 52	62	36		45		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
63	73	41.5		49				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

CEW

DEMOUNTABLE GUIDE PILLAR

FÜHRUNGSSÄULE MIT BUND | COLONNA ESTRAIBILE

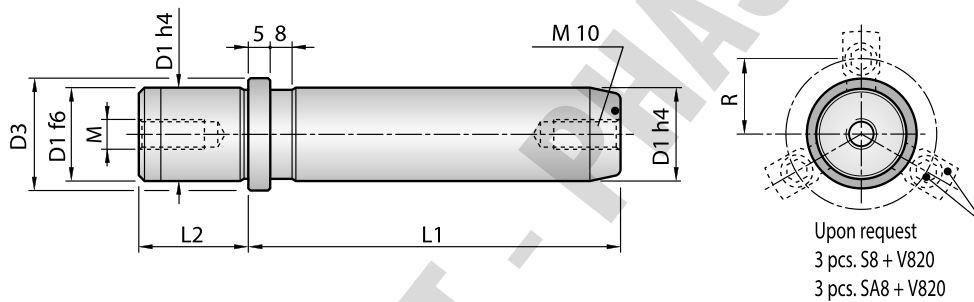


Material: 1.7131
 Hardness: 61÷63 HRC
 Execution: fine ground

STOCK



HOW TO ORDER
 CEW * D1 * L1 (CEW80180)



D1	D3	R	M	L2	L1									
					180	200	220	240	260	280	300	320	360	400
80	93	51,5	M12	59	•	•	•	•	•	•	•	•	•	•

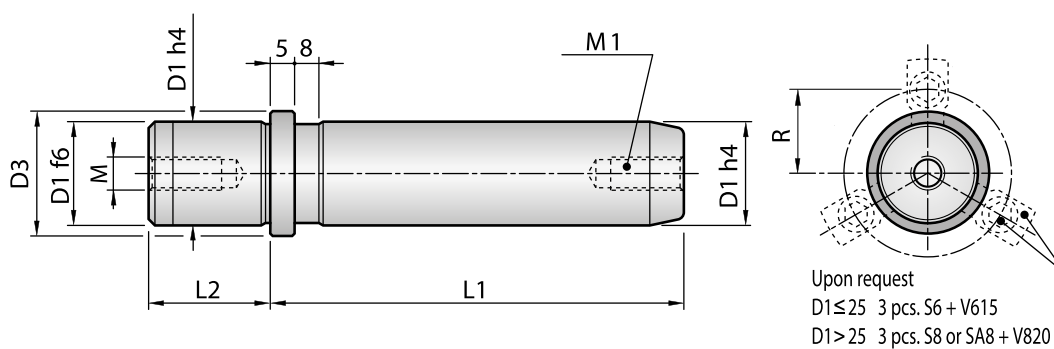
CEIN

DEMOUNTABLE GUIDE PILLAR

FÜHRUNGSSÄULE MIT BUND | COLONNA ESTRAIBILE



Material: steel Hardness: 60 ÷ 63 HRC (induction) Execution: fine ground	STOCK	 HOW TO ORDER CEIN * D1 * L1 (CEIN18100)
---	-------	---



D1	D3	R	M	M1	L2	L1																
						100	110	120	130	140	150	160	170	180	200	220	240	260	280	300	320	360
18 - 19	25	16,5	M8	M6	20	•	•	•	•	•	•	•										
24 - 25	32	20	M10		25	•	•	•	•	•	•	•	•	•								
30 - 32	40	25			30	•	•	•	•	•	•	•	•	•	•	•						
40 - 42	50	30	M12	M8	35	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
50 - 52	62	36			45		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
63	73	41,5		M10	49				•	•	•	•	•	•	•	•	•	•	•	•	•	•
80	93	51,5			59									•	•	•	•	•	•	•	•	•

B4

PILOT BUSH

FÜHRUNGSBUCHSE | BUSSOLA LISCIA

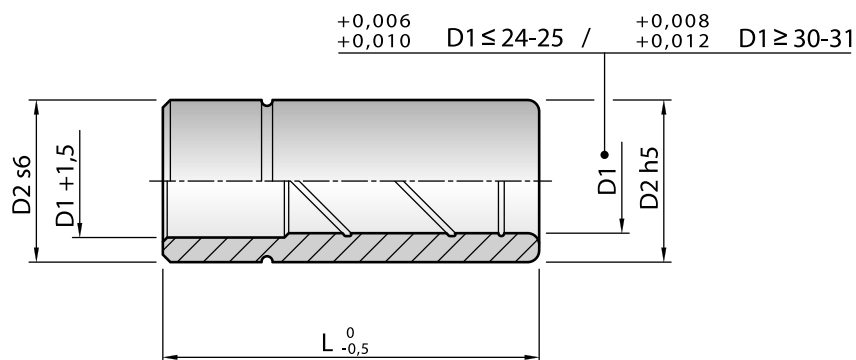


Material: 1.7131
Hardness: 61÷63 HRC
Execution: inner diameter honed; outer diameter fine ground

STOCK



HOW TO ORDER
B4 * D1 * L (B41535)



D1	D2	L							
		35	45	50	55	60	70	80	100
15 - 16	26	•		•					
17 - 18	28		•		•				
19 - 20	30		•			•			
24 - 25	36			•			•		
30 - 31	45				•			•	
40 - 41	55					•			•
50 - 51	70					•			•
63	85								•

B4B

STEEL/BRONZE PILOT BUSH

FÜHRUNGSBUCHSE MIT BRONZEEINSATZ | BUSSOLA LISCIA ACCIAIO/BRONZO



Material: 1.7131 - Bronze

Hardness: 52÷54 HRC

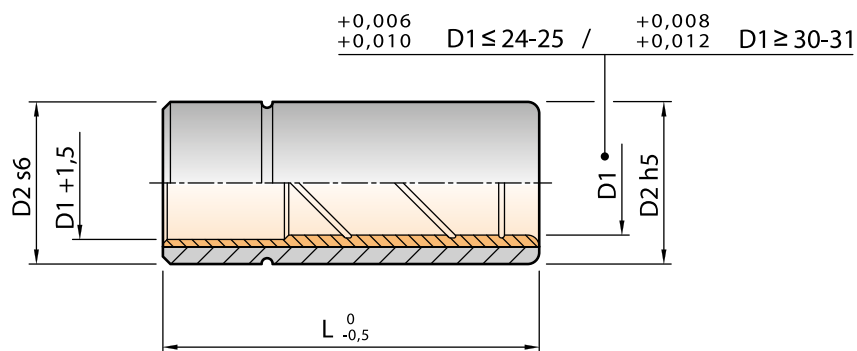
Execution: inner diameter bronze insert, honed; D3 fine ground

STOCK



HOW TO ORDER

B4B * D1 * L (B4B1535)



D1	D2	L							
		35	45	50	55	60	70	80	100
15 - 16	26	•		•					
17 - 18	28		•		•				
19 - 20	30		•			•			
24 - 25	36			•			•		
30 - 31	45				•			•	
40 - 41	55					•			•
50 - 51	70					•			•
63	85								•

B5 C

FLANGED CONICAL GUIDE BUSH

KONISCHE FÜHRUNGSBUCHSE | BUSSOLA A COLLARE CON FORI DI FISSAGGIO - CONICA

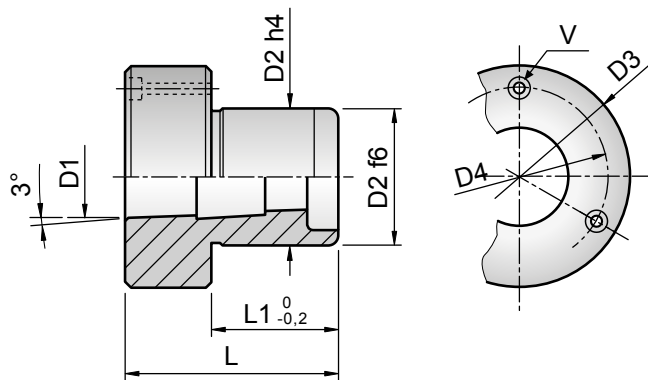


Material: 1.7131
Hardness: 61÷63 HRC
Execution: conical diameter and D2 fine ground

STOCK



HOW TO ORDER
B5 * D1 * C (B524C)



D1	D2	D3	D4	V	L1	L				
						63	72	80	99	100
24 - 25	40	63	50	M5	43	•				
30 - 31	48	72	58		47		•			
40 - 41	58	83	70	M6	52			•		
50 - 51	70	103	86	M8	58					•
63	85	120	100		57				•	

B5

FLANGED GUIDE BUSH

FÜHRUNGSBUCHSE MIT FLANSCH | BUSSOLA A COLLARE CON FORI DI FISSAGGIO

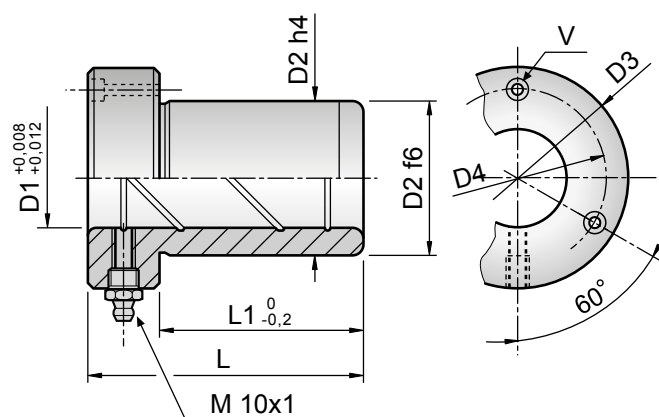


Material: 1.7131
Hardness: 61÷63 HRC
Execution: inner diameter honed; D2 fine ground

STOCK



HOW TO ORDER
B5 * D1 (B524)



D1	D2	D3	D4	V	L1	L				
						63	72	80	99	100
24 - 25	40	63	50	M5	43	•				
30 - 31	48	72	58		47		•			
40 - 41	58	83	70	M6	52			•		
50 - 51	70	103	86	M8	58					•
63	85	120	100		57				•	

B5B

STEEL/BRONZE FLANGED GUIDE BUSH

FÜHRUNGSBUCHSE MIT FLANSCH MIT BRONZEEINSATZ | BUSSOLA A COLLARE CON FORI DI FISSAGGIO ACCIAIO/BRONZO

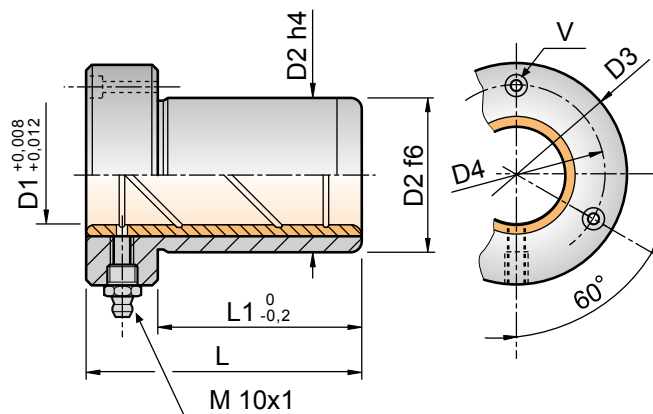


Material: 1.7131 - Bronze
Hardness: 52÷54 HRC
Execution: inner diameter bronze insert, honed; D2 fine ground

STOCK



HOW TO ORDER
B5B * D1 (B5B24)



D1	D2	D3	D4	V	L1	L				
						63	72	80	99	100
24 - 25	40	63	50	M5	43	•				
30 - 31	48	72	58		47		•			
40 - 41	58	83	70	M6	52			•		
50 - 51	70	103	86	M8	58					•
63	85	120	100		57				•	

BE

DEMOUNTABLE GUIDE BUSH

FÜHRUNGSBUCHSE MIT BUND | BUSSOLA ESTRAIBILE

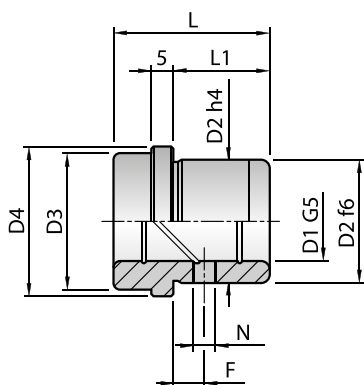


Material: 1.7131
Hardness: 61÷63 HRC
Execution: inner diameter honed; D2 fine ground

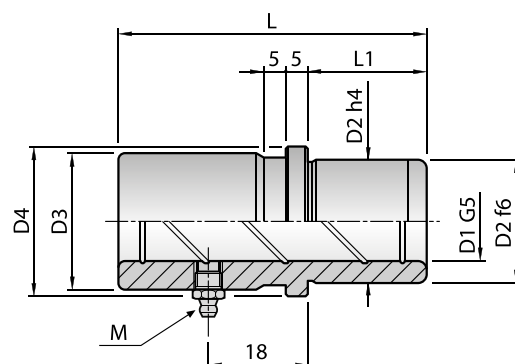
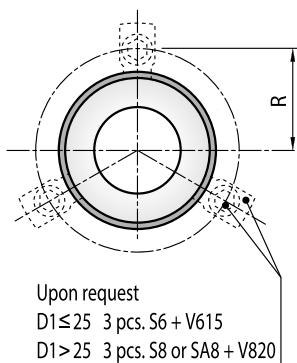
STOCK



HOW TO ORDER
BE * D1 * TYPE (BE18C)



TYPE C - XM



TYPE M - XL - L

D1	D2	D3	D4	R	M	N	F	L	L1	TYPE	
18 - 19	28	29	34	21	---	5	8	31	18	C	
		31			M6X1	---	---	50	37	XM	
								70	18	M	
									27	XL	
										18	L
24 - 25	38	39	44	26	---	5	9	36	23	C	
		41			M10X1	---	---	12	55	42	XM
								80		23	M
									32	XL	
										23	L
30 - 32	45	48	53	31,5	---	5	11	43	30	C	
		50			M10X1	---	---	16	60	47	XM
								90		26	M
									37	XL	
										26	L
40 - 42	54	58	63	36,5	---	8	11	51	38	C	
		60			M10X1	---	---	19	67	54	XM
								100		30	M
									47	XL	
										30	L
50 - 52	65	74	79	44,5	---	8	14	61	48	C	
		76			M10X1	---	---	19	75	62	XM
								110		35	M
									57	XL	
										35	L
63	81	87	92	51	---	8	19	74	61	C	
		89			M10X1	---	---	90	77	XM	
								130	48	M	
									67	XL	
										48	L

BEB

STEEL/BRONZE DEMOUNTABLE GUIDE BUSH

FÜHRUNGSBUCHSE MIT BUND MIT BRONZEEINSATZ | BUSSOLA ESTRAIBILE ACCIAIO/BRONZO



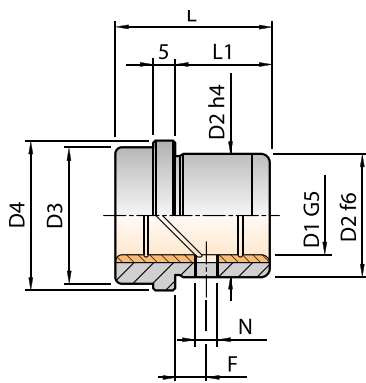
Material: 1.7131 - Bronze
Hardness: 52÷54 HRC
Execution: inner diameter bronze insert, honed; D3 fine ground

STOCK

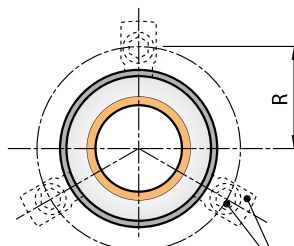


HOW TO ORDER

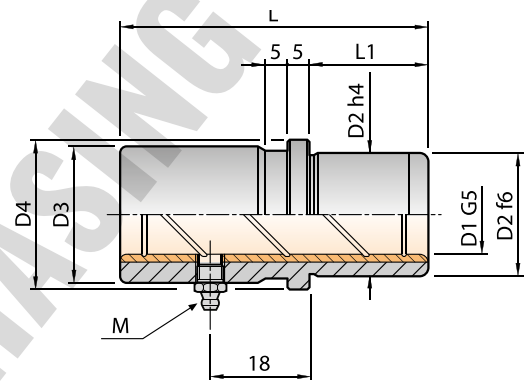
BEB * D1 * TYPE (BEB18C)



TYPE C - XM



Upon request
 D1 ≤ 25 3 pcs. S6 + V615
 D1 > 25 3 pcs. S8 or SA8 + V820



TYPE M - XL - L

D1	D2	D3	D4	R	M	N	F	L	L1	TYPE
18 - 19	28	29	34	21	---	5	8	31	18	C
		31			M6X1	---	---	50	37	XM
								70	18	M
									27	XL
24 - 25	38	39	44	26	---	5	12	36	23	C
		41			M10X1	---	---	55	42	XM
								80	23	M
									32	XL
30 - 32	45	48	53	31,5	---	5	16	43	30	C
		50			M10X1	---	---	60	47	XM
									26	M
								90	37	XL
40 - 42	54	58	63	36,5	---	8	19	51	26	L
		60			M10X1	---	---	67	38	C
									54	XM
								100	30	M
50 - 52	65	74	79	44,5	---	8	19	61	47	XL
		76			M10X1	---	---	75	30	M
								110	48	C
									62	XM
63	81	87	92	51	---	8	19	74	35	M
		89			M10X1	---	---	90	57	XL
								130	35	L
									61	C
80	100	106	111	60,5	---	8	19	91	77	XM
		108			M10X1	---	---	100	48	M
								150	67	XL
									48	L

BEP

BRONZE PLATED DEMOUNTABLE BUSH

FÜHRUNGSBUCHSE MIT BUND BRONZEPLATTIERT | BUSSOLA ESTRAIBILE RIVESTIMENTO BRONZO

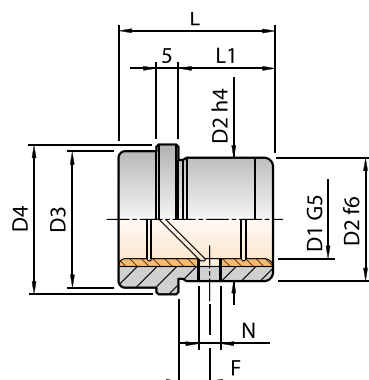


Material: C45 - Bronze
Hardness: D2 54÷58 HRC (induction)
Execution: inner diametre bronze plated, honed; D2 fine ground

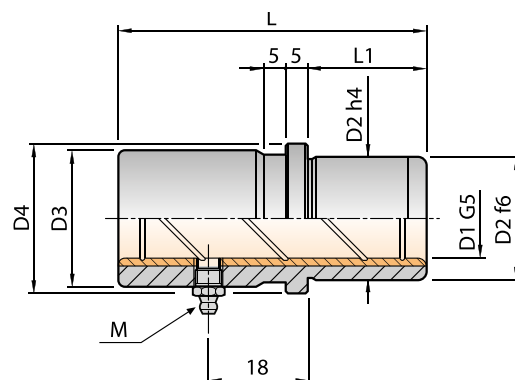
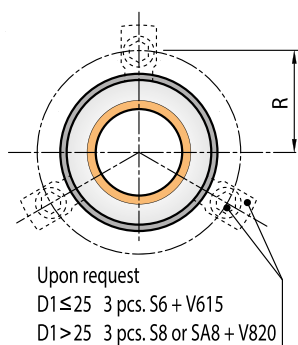
STOCK



HOW TO ORDER

BEP * D1 * TYPE (BEP18C)


TYPE C - XM



TYPE M - XL - L

D1	D2	D3	D4	R	M	N	F	L	L1	TYPE
18 - 19	28	29	34	21	---	5	8	31	18	C
		M6X1			---	---	50	37	XM	
							70	18	M	
								27	XL	
24 - 25	38	39	44	26	---	5	12	36	23	C
		M10X1			---	---	55	42	XM	
							80	23	M	
								32	XL	
30 - 32	45	48	53	31,5	---	5	16	43	30	C
		M10X1			---	---	60	47	XM	
							90	26	M	
								37	XL	
40 - 42	54	58	63	36,5	---	8	19	51	38	C
		M10X1			---	---	67	54	XM	
							100	30	M	
								47	XL	
50 - 52	65	74	79	44,5	---	8	19	61	48	C
		M10X1			---	---	75	62	XM	
							110	35	M	
								57	XL	
63	81	87	92	51	---	8	19	74	61	C
		M10X1			---	---	90	77	XM	
							130	48	M	
								67	XL	
80	100	106	111	60,5	---	8	19	91	78	C
		M10X1			---	---	100	48	M	
							150	77	XL	
								48	L	

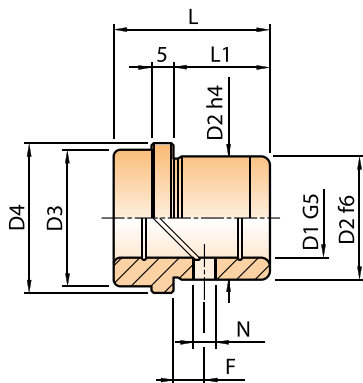
BBE

BRONZE DEMOUNTABLE GUIDE BUSH

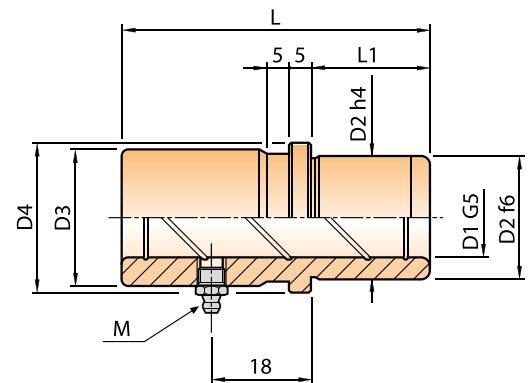
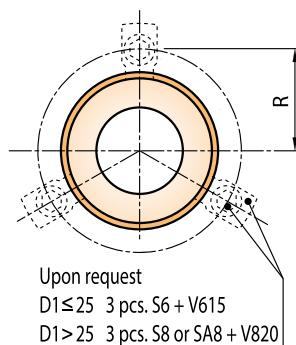
FÜHRUNGSBUCHSE MIT BUND VOLLBRONZE | BUSSOLA ESTRAIBILE BRONZO INTEGRALE



Material: bronze Hardness: - Execution: inner diameter honed; D2 fine ground	STOCK	 HOW TO ORDER BBE * D1 * TYPE (BBE18C)
---	-------	---



TYPE C - XM



TYPE M - XL - L

D1	D2	D3	D4	R	M	N	F	L	L1	TYPE
18 - 19	28	29	34	21	---	5	8	31	18	C
		M6X1			---	---	50	37	XM	
							70	18	M	
								27	XL	
24 - 25	38	39	44	26	---	5	12	36	23	C
		M10X1			---	---	55	42	XM	
							80	23	M	
								32	XL	
30 - 32	45	48	53	31,5	---	5	16	43	30	C
		M10X1			---	---	60	47	XM	
							90	26	M	
								37	XL	
40 - 42	54	58	63	36,5	---	8	19	51	38	C
		M10X1			---	---	67	54	XM	
							100	30	M	
								47	XL	
50 - 52	65	74	79	44,5	---	8	19	61	48	C
		M10X1			---	---	75	62	XM	
							110	35	M	
								57	XL	
63	81	87	92	51	---	8	19	74	61	C
		M10X1			---	---	90	77	XM	
							130	48	M	
								67	XL	
80	100	106	111	60,5	---	8	19	91	78	C
		M10X1			---	---	100	48	M	
							150	77	XL	
								48	L	

BESS

DEMOUNTABLE GUIDE BUSH

FÜHRUNGSBUCHSE MIT BUND | BUSSOLA ESTRAIBILE



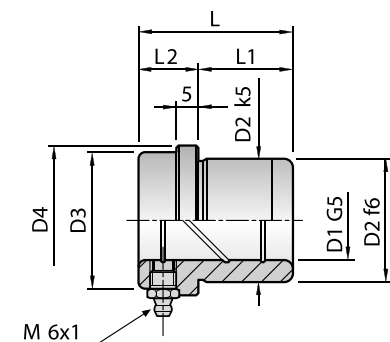
Material: 1.7131
Hardness: 61÷63 HRC
Execution: inner diameter honed; D2 fine ground

STOCK

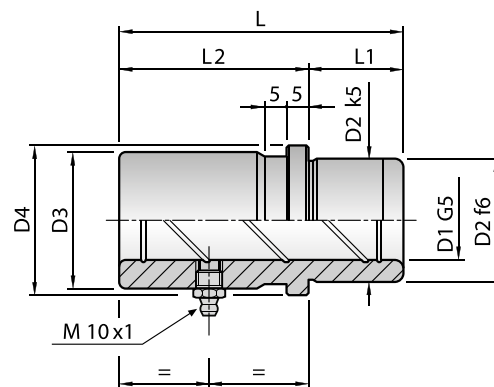
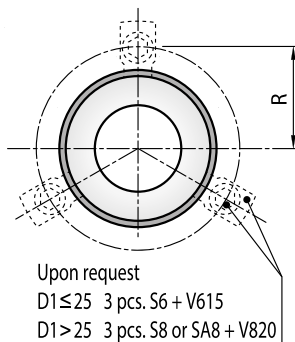


HOW TO ORDER

BESS * D1 * TYPE (BESS25C)



TYPE C



TYPE L

D1	D2	D3	D4	R	L	L1	L2	TYPE
25	40	37	45	25,5	40	25	15	C
		42			70		45	L
30	45	47	55	32,5	50	30	20	C
		52			80		50	L
40	55	57	65	37,5	55	35	20	C
		62			90		55	L
50	70	72	79	44,5	65	45	20	C
		77			100		55	L
63	81	84	92	51	68	48	20	C
		90			110		62	L

BEBSS

STEEL/BRONZE DEMOUNTABLE GUIDE BUSH

FÜHRUNGSBUCHSE MIT BUND MIT BRONZEEINSATZ | BUSSOLA ESTRAIBILE ACCIAIO/BRONZO



Material: 1.7131 - Bronze

Hardness: 52÷54 HRC

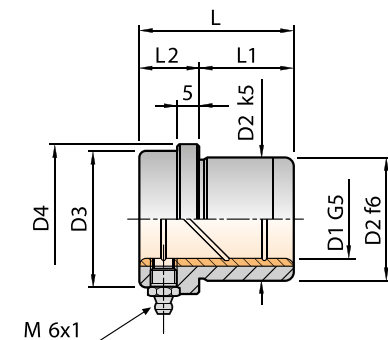
Execution: inner diameter bronze insert, honed; D2 fine ground

STOCK

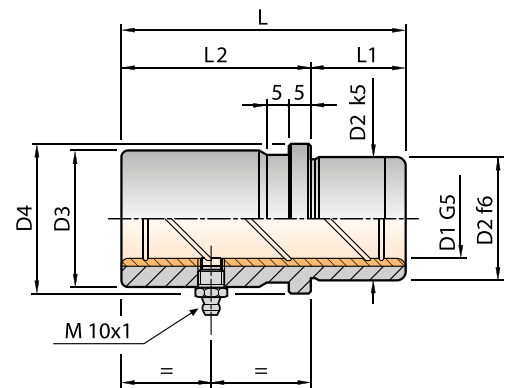
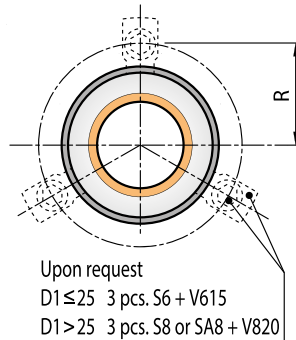


HOW TO ORDER

BEBSS * D1 * TYPE (BEBSS25C)



TYPE C



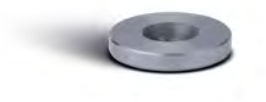
TYPE L

D1	D2	D3	D4	R	L	L1	L2	TYPE
25	40	37	45	25,5	40	25	15	C
		42			70		45	L
30	45	47	55	32,5	50	30	20	C
		52			80		50	L
40	55	57	65	37,5	55	35	20	C
		62			90		55	L
50	70	72	79	44,5	65	45	20	C
		77			100		55	L
63	81	84	92	51	68	48	20	C
		90			110		62	L

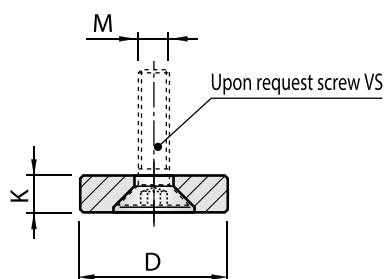
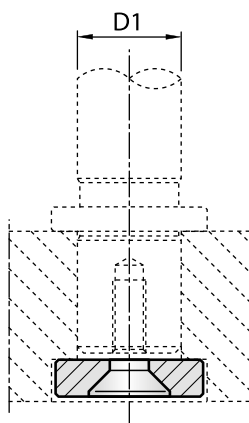
RTE

WASHER FOR PILLAR CE

HALTESCHEIBE FÜR CE SÄULE | RONDELLA PER COLONNA CE


 Material: 1.1730
 Hardness: -
 Execution: -

STOCK


 HOW TO ORDER
 RTE * D (RTE25)


D	D1	K	M
25	18 - 19	6	M8
32	24 - 25	7	M10
40	30 - 32		
50	40 - 42	9	M12
62	50 - 52		
73	63		
93	80	12	

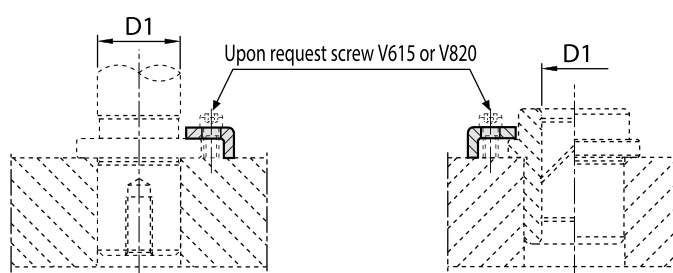
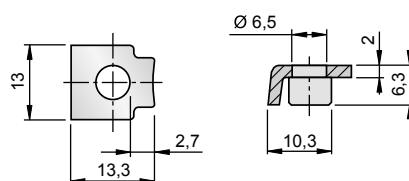
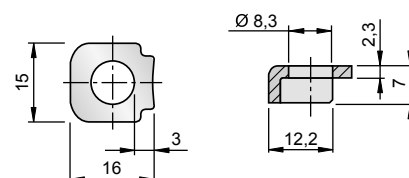
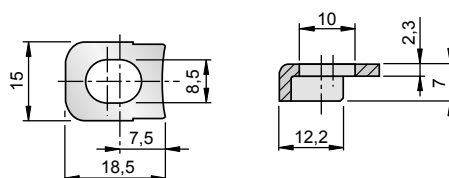
S-ITALIA

RETAINING CLAMPS

HALTESTÜCKE | STAFFETTE DI RITEGNO

 Material: steel
 Hardness: -
 Execution: -

STOCK


 HOW TO ORDER
 CODE (S6)

S6

S8

SA8


CODE	D1	QUANTITY
S6	18 - 19	3
	24 - 25	
	30 - 32	
S8 - SA8	40 - 42	
	50 - 52	
	63	
	80	

V

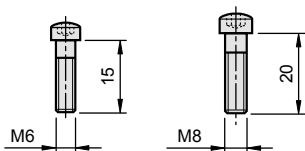
SCREWS FOR CLAMPS

SCHRAUBE | VITI PER STAFFETTE

ISO 7380



STOCK	3D-CAD 		HOW TO ORDER CODE (V615)
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CODE	M
V615	M6x15
V820	M8x20

VS

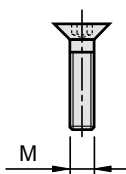
SCREWS FOR WASHERS

SCHRAUBE FÜR HALTESCHEIBE | VITI PER RONDELLE

DIN 7991 / ISO 10642



STOCK	3D-CAD 		HOW TO ORDER CODE (VS820)
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CODE	M
VS820	M8x20
VS1020	M10x20
VS1230	M12x30

VCOL

SHOULDER SCREW

SCHULTERSCHRAUBE | VITE A COLLETTA

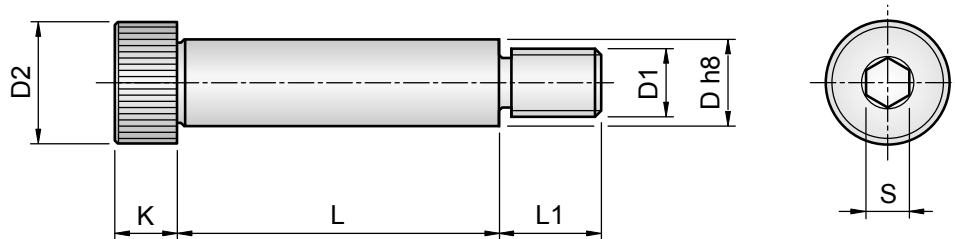


Material: steel 12.9
 Hardness: 38 ÷ 44 HRC
 Execution: fine ground

STOCK



HOW TO ORDER
 VCOL * D * L (VCOL610)



D	D1	D2	K	L1	S	L																	
						10	12	16	20	25	30	35	40	45	50	55	60	65	70	80	90	100	120
6	M5X0,8	10	4,5	9,5	3	•	•	•	•	•	•	•	•	•	•								
8	M6X1	13	5,5	11	4	•	•	•	•	•	•	•	•	•	•	•	•	•	•				
10	M8X1,25	16	7	13	5			•	•	•	•	•	•	•	•	•	•	•	•		•		
12	M10X1,5	18	9	16	6			•	•	•	•	•	•	•	•	•	•	•	•	•	•		
16	M12X1,75	24	11	18	8						•	•	•	•	•	•	•	•	•	•	•	•	•
20	M16X2	30	14	22	10								•		•	•	•		•	•	•	•	•
24	M20X2,5	36	16	27	12										•		•		•	•	•	•	•

BARRAT

INDUCTION HARDENED GROUND SHAFT

INDUKTIONSGEHÄRTETE WELLE | *BARRA RETTIFICATA E TEMPRATA INDUZIONE*



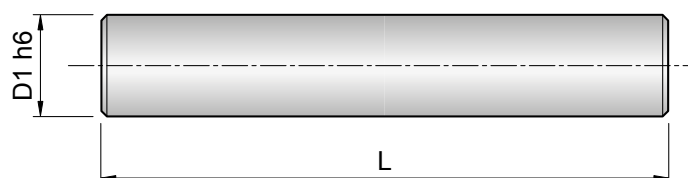
Material: 1.1213
Hardness: 60÷64 HRC
Execution: fine ground

STOCK



HOW TO ORDER

BARRAT * D1 * L (BARRAT61000)



D1	L
6	1000
8	
10	
12	
14	
16	
18	
20	
25	
30	
32	
40	
50	
60	

MOULD COMPONENTS

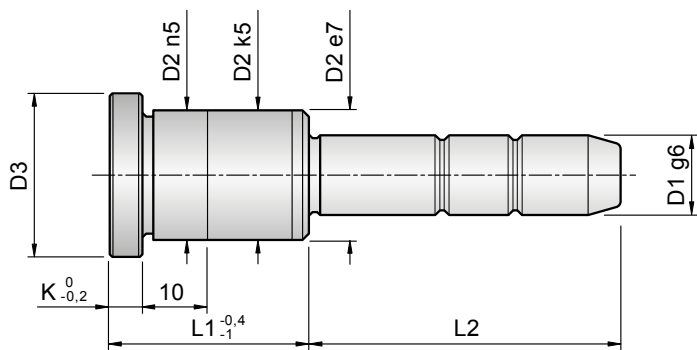
C03M - C03MD - C03MLD

GUIDE PILLAR WITHOUT CENTRING COLLAR

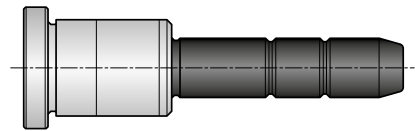
FÜHRUNGSSÄULE OHNE ZENTRIERANSATZ | COLONNA GUIDA A DUE DIAMETRI

Material: 1.7131 Hardness: 61 ÷ 63 HRC Execution: fine ground	STOCK	3D-CAD 	HOW TO ORDER C03M * D1 * L1 * L2 (C03M141735)
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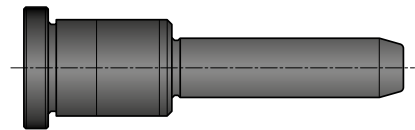
C03M



C03MD

 Option with **DLC** on sliding
 Upon request (8 working days)


C03MLD

 Option with **DLC** integral - no grooves on sliding
 Upon request (18 working days)


D1	D2	D3	K	L1	L2																
					25	35	55	75	95	115	135	155	175	195	205	215	235	245	255	275	
14 - 15	20	25	6	17		•	•	•	•												
				22		•	•	•	•	•											
				27	•	•	•	•	•	•	•	•									
				36		•	•	•	•	•	•										
				46		•	•	•	•	•	•										
				56		•	•	•	•												
				66			•	•	•												
				76			•	•	•												
				86			•	•	•												
				96			•	•	•												
18 - 20	26	31		17		•	•	•	•												
				22		•	•	•	•												
				27		•	•	•	•	•	•	•		•			•			•	
				36		•	•	•	•	•	•	•		•			•				
				46		•	•	•	•	•	•	•		•			•				
				56		•	•	•	•	•	•										
				66		•	•	•	•	•	•	•									
				76			•	•	•	•	•	•		•							
				86			•	•	•	•	•	•		•							
				96			•	•	•	•	•										
22 - 24	30	35		106			•	•	•	•											
				116				•	•	•											
				22		•	•	•	•	•											
				27		•	•	•	•	•		•		•			•			•	
				36		•	•	•	•	•		•		•			•			•	
				46		•	•	•	•	•		•		•			•			•	

D1	D2	D3	K	L1	L 2															
					25	35	55	75	95	115	135	155	175	195	205	215	235	245	255	275
22 - 24	30	35	6	56		•	•	•	•	•		•		•			•			
				66			•	•	•	•		•		•						
				76			•	•	•	•	•	•								
				86			•	•	•	•	•	•		•						
				96			•	•	•	•	•	•		•						
				106				•	•	•	•									
				116				•	•	•	•	•		•						
				136					•	•		•								
				156						•		•								
27				•	•	•	•			•		•			•					
36				•	•	•	•			•		•			•					
46				•	•	•	•			•		•			•			•		
56				•	•	•	•			•		•			•					
66				•	•	•	•			•		•			•					
76				•	•	•	•			•		•								
86				•	•	•	•			•		•			•					
96					•	•	•			•		•			•					
106					•	•	•			•		•								
116					•	•	•			•		•								
136					•	•			•		•									
156						•	•		•											
176							•		•		•									
196							•		•		•									
40 - 42	54	59	10	36			•	•	•		•									
				46			•	•	•		•									
				56			•	•	•		•									
				66			•	•	•		•									
				76			•	•	•		•									
				86			•	•	•		•									
				96			•	•	•		•		•							
				106			•	•	•		•		•							
				116			•	•	•		•					•				
				136				•	•		•		•							
				156					•		•		•							
				176					•		•		•							
				196					•		•		•			•				
				216							•		•		•					
				236									•		•		•			
				246												•		•		
				256													•			•
50 - 52	66	71		56					•				•							
				66					•	•		•								
				76				•	•	•	•	•	•							
				86				•	•	•		•								
				96					•	•	•	•	•	•		•				
				116						•	•	•	•	•		•				
				136						•	•	•	•	•		•				
				156							•	•	•	•		•				
			176								•	•	•		•		•			
			196									•	•		•		•			
			216									•	•		•		•			
			236										•	•		•		•		
			246										•	•		•		•		
			256										•	•		•		•		

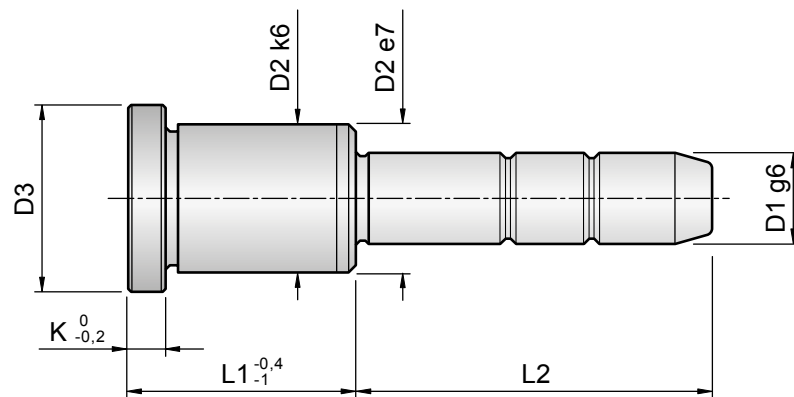
C03H

GUIDE PILLAR WITHOUT CENTRING COLLAR

FÜHRUNGSSÄULE OHNE ZENTRIERANSATZ | COLONNA GUIDA A DUE DIAMETRI



Material: 1.7131 Hardness: 61 ÷ 63 HRC Execution: fine ground	STOCK	3D-CAD 	HOW TO ORDER C03H * D1 * L1 * L2 (C03H6096115)
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D1	D2	D3	K	L1	L2							
					115	135	155	175	195	235	275	315
60	80	86	20	96	•		•		•			
				116		•	•		•			
				136		•	•		•			
				156			•		•	•		
				196				•	•	•		
				246					•	•	•	•

COOM - COOMD - COOMLD

GUIDE PILLAR WITH CENTRING COLLAR

FÜHRUNGSSÄULE MIT ZENTRIERANSATZ | COLONNA GUIDA SPALLATA



Material: 1.7131
 Hardness: 61÷63 HRC
 Execution: fine ground

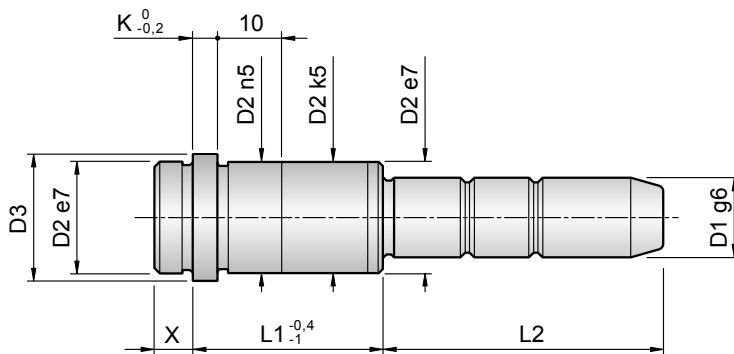
STOCK



HOW TO ORDER

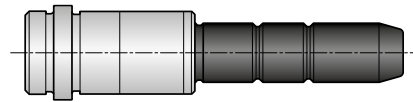
COOM * D1 * L1 * L2 (COOM141735)

COOM



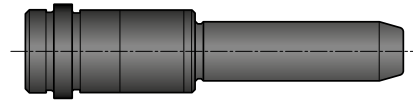
COOMD

Option with **DLC** on sliding
 Upon request (8 working days)



COOMLD

Option with **DLC** integral - no grooves on sliding
 Upon request (18 working days)



D1	D2	D3	K	X	L1	L2																
						25	35	55	75	95	115	135	155	195	205	215	235	245	255	275	295	
14 - 15	20	25	6	9	17		•	•	•	•												
					22	•	•	•	•	•	•	•										
					27	•	•	•	•	•	•	•	•									
					36	•	•	•	•	•	•	•	•									
					46	•	•	•	•	•	•	•										
					56		•	•	•	•	•	•										
					66		•	•	•	•	•											
					76			•	•	•												
					86			•	•	•												
					96			•	•	•												
18 - 20	26	31			17		•	•	•	•	•											
					22		•	•	•	•	•	•										
					27		•	•	•	•	•	•	•	•				•				
					36		•	•	•	•	•	•	•	•				•				
					46		•	•	•	•	•	•	•	•				•				
					56		•	•	•	•	•	•	•	•								
					66		•	•	•	•	•	•	•	•								
					76		•	•	•	•	•	•	•	•								
					86			•	•	•	•	•	•	•								
					96			•	•	•	•	•	•	•								
			106			•	•	•														
			116				•	•	•													

to be continued.....

COOM - COOMD - COOMLD

GUIDE PILLAR WITH CENTRING COLLAR

FÜHRUNGSSÄULE MIT ZENTRIERANSATZ | COLONNA GUIDA SPALLATA



Material: 1.7131
 Hardness: 61÷63 HRC
 Execution: fine ground

STOCK

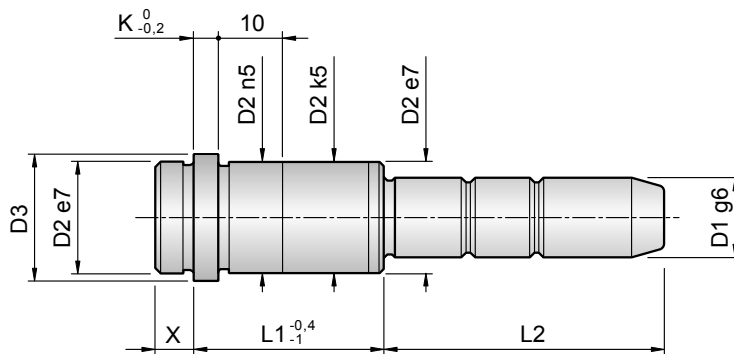
3D-CAD



HOW TO ORDER

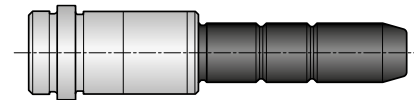
COOM * D1 * L1 * L2 (COOM141735)

COOM



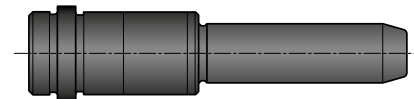
COOMD

Option with **DLC** on sliding
 Upon request (8 working days)



COOMLD

Option with **DLC** integral - no grooves on sliding
 Upon request (18 working days)



.....continue

D1	D2	D3	K	X	L1	L2															
						25	35	55	75	95	115	135	155	195	205	215	235	245	255	275	295
18 - 20	26	31	6	9	126				•	•	•										
					136				•	•	•										
22 - 24	30	35			22		•	•	•	•	•	•									
					27		•	•	•	•	•		•	•			•			•	
					36		•	•	•	•	•		•	•			•			•	
					46		•	•	•	•	•		•	•			•			•	
					56		•	•	•	•	•		•	•			•				
					66		•	•	•	•	•		•	•			•				
					76			•	•	•	•	•	•	•							
					86			•	•	•	•	•	•	•			•			•	
					96			•	•	•	•	•	•	•			•			•	
					106				•	•	•	•	•	•							
					116			•	•	•	•	•	•	•			•				
					126				•	•	•		•								
					136				•	•	•		•								
					156					•	•		•								
30 - 32	42	47			27			•	•	•	•		•	•			•			•	
					36			•	•	•	•		•	•			•			•	
					46			•	•	•	•		•	•			•			•	
					56			•	•	•	•		•	•			•			•	•
					66			•	•	•	•		•	•			•			•	•
					76			•	•	•	•		•	•			•			•	
					86			•	•	•	•		•	•			•			•	
					96			•	•	•	•		•	•							•

D1	D2	D3	K	X	L1	L2															
						25	35	55	75	95	115	135	155	195	205	215	235	245	255	275	295
30 - 32	42	47	6	9	106				•	•	•		•	•							
					116				•	•	•		•	•			•			•	•
					126				•	•	•		•	•							
					136				•	•	•		•	•			•			•	
					156					•	•		•				•				
					176						•		•	•			•				
					196						•		•	•			•				
40 - 42	54	59	10	12	36				•	•	•		•								
					46				•	•	•		•								
					56				•	•	•		•	•			•				
					66				•	•	•		•	•							
					76				•	•	•		•	•							
					86				•	•	•		•	•							
					96				•	•	•		•	•			•			•	
					106				•	•	•		•	•						•	
					116				•	•	•		•	•			•			•	
					136					•	•		•	•			•			•	
					156					•	•		•	•			•				
					176						•		•	•			•			•	
					196						•		•	•			•			•	
					216									•		•					
					236									•			•		•		
					246												•		•		
					256										•					•	
50 - 52	66	71	10	12	56				•	•	•		•								
					66					•	•										
					76					•	•		•	•							
					86						•		•								
					96					•	•		•	•							
					116						•		•	•							
					136						•		•	•							
					156							•	•	•							
					176								•	•			•				
					196								•	•			•				
					216								•	•			•				
					236								•	•			•		•		
					256									•	•		•		•		

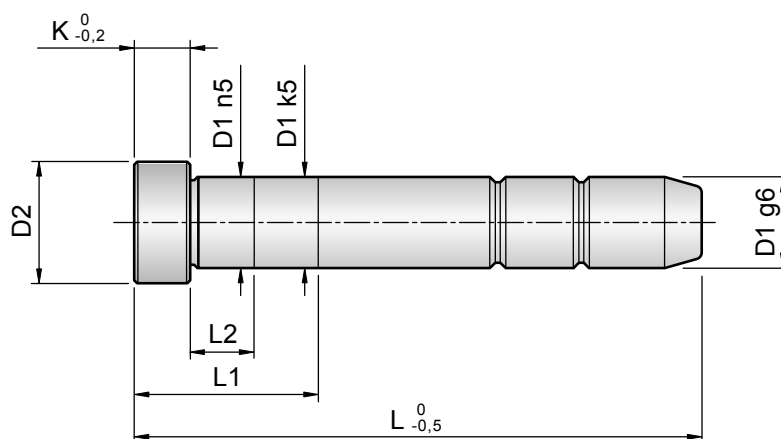
C20M

GUIDE PILLAR

FÜHRUNGSSÄULE | COLONNA GUIDA A UN DIAMETRO



Material: 1.7131 Hardness: 61÷63 HRC Execution: fine ground	STOCK	3D-CAD 	HOW TO ORDER C20M * D1 * L (C20M1460)
--	-------	------------	---



D1	D2	K	L1	L2	L																		
					60	80	100	120	140	160	180	200	220	250	280	320	360	400	450	500	550		
14	17	6	22	6	•	•	•	•															
			27	10					•	•	•												
15	18		22	6	•	•	•	•															
			27	10					•	•													
16	19		22	6		•	•	•															
			27	10					•	•	•												
18	21		22	6		•	•	•															
			27	10					•	•	•												
			36									•	•										
20	23		22	6		•	•	•															
			27	10					•	•	•												
			36									•	•	•									
22	25		27	10			•	•	•	•	•												
			36									•	•	•									
			46												•	•							
24	27		27				•	•	•	•	•						•	•					
			36									•	•	•									
			46													•	•						
30	35		36					•	•	•	•	•	•	•	•								
			46													•	•						
			56															•	•				
32	37		36					•	•	•	•	•	•	•	•								
			46														•	•					
			56																•	•			

D1	D2	K	L1	L2	L																
					60	80	100	120	140	160	180	200	220	250	280	320	360	400	450	500	550
40	45	10	46	15						•	•	•	•	•	•						
			56											•	•						
			66													•	•				
			76															•			
42	47		46						•	•	•	•	•	•						•	
			56											•	•						
			66													•	•				
			76																•		
50	55		56									•		•	•	•					
			66												•	•					
			76														•	•			
			86																	•	
52	57		56								•			•	•	•					
			66												•	•					
			76														•	•			
			86																	•	
60	68		66												•	•	•				
			76													•	•				
			86																	•	

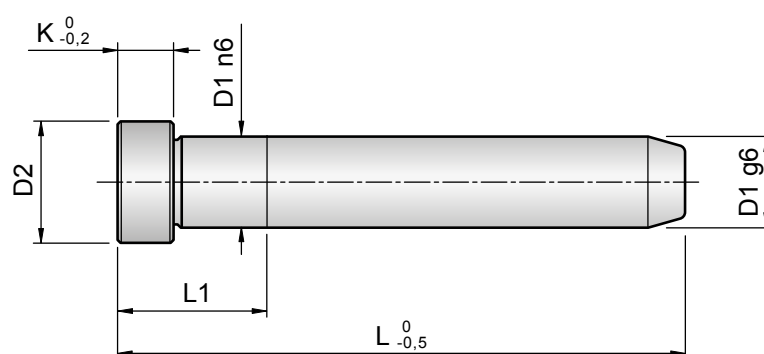
C30M

GUIDE PILLAR

FÜHRUNGSSÄULE | COLONNA GUIDA A UN DIAMETRO LISCIA



Material: 1.7131 Hardness: 61÷63 HRC Execution: fine ground	STOCK	3D-CAD 	HOW TO ORDER C30M * D1 * L (C30M1460)
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D1	D2	K	L1	L																					
				50	60	70	80	90	100	110	120	140	160	180	200	220	240	250	260	280	300	320	360	400	440
14	17	8	22		•	•	•	•	•	•	•	•	•	•	•	•									
16	19			•	•	•	•	•	•	•	•	•	•	•	•	•	•		•						
18	21				•	•	•	•	•	•	•	•	•	•	•	•	•		•	•					
20	23					•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•			
22	25	10	27				•		•		•	•	•	•	•	•	•			•	•	•			
24	27						•		•		•	•	•	•	•	•	•			•	•	•	•		
30	35		36						•		•	•	•	•	•	•	•			•	•	•	•	•	
32										•		•	•	•	•	•	•				•		•	•	
40				45									•	•	•	•	•	•		•		•	•	•	•

C34M

STRAIGHT GUIDE PILLAR

SCHRÄBOLZEN OHNE BUND | *COLONNA LISCIA*



Material: 1.7131
 Hardness: 61÷63 HRC
 Execution: fine ground

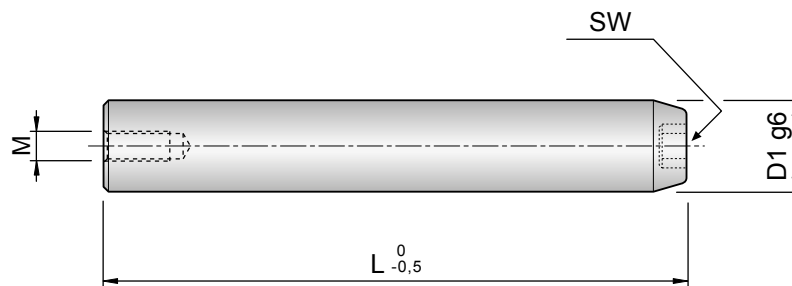


3D-CAD



HOW TO ORDER

C34M * D1 * L (C34M1040)



D1	M	SW	L															
			40	50	60	70	80	90	100	110	120	140	160	180	200	220	240	260
10	M6	4	◇	◇	◇	◇	◇	◇	◇		◇							
12		5		◇	◇	◇	◇	◇	◇		◇	◇	◇					
14					◇	◇	◇	◇	◇	◇	◇	◇	◇					
16	M8	6			◇		◇	◇	◇		◇	◇	◇	◇	◇			
18						◇		◇	◇	◇		◇	◇	◇	◇	◇	◇	
20	M10	8			◇	◇	◇	◇	◇		◇	◇	◇	◇	◇	◇	◇	
22					◇		◇	◇	◇		◇	◇	◇	◇	◇	◇	◇	◇
24	M12				◇		◇	◇	◇		◇	◇	◇	◇	◇	◇	◇	
30	M16								◇		◇	◇		◇		◇	◇	◇

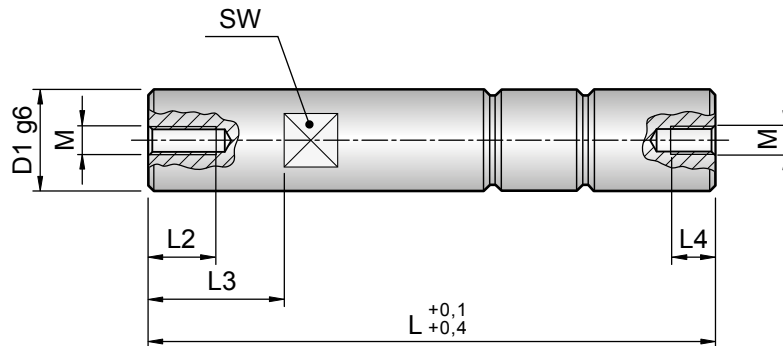
C50MH

EJECTOR RODS

AUSWERFERBOLZE | DISTANZIALE FILETTATO



Material: 1.7131 Hardness: 61÷63 HRC Execution: fine ground	STOCK	3D-CAD 		HOW TO ORDER C50MH * D1 * L (C50MH1460)
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D1	L2	L3	L4	M	SW	L														
						60	70	80	100	120	140	160	180	200	220	240	260	300	340	380
14	25	14	17	M8	12	•	•	•	•	•	•	•	•	•				•		
18	30	16	20	M10	14		•	•	•	•	•	•	•	•	•	•			•	
20		18		M12	17		•		•	•	•	•	•	•	•	•			•	
24	35	22	25		19		•	•	•	•	•	•	•	•	•	•			•	
30	45	28	30	M16	24				•	•	•	•	•	•	•		•	•	•	
40	55	36	35	M20	36							•	•	•	•	•	•	•	•	•

C012

GUIDE PILLAR

FÜHRUNGSBOLZE MIT BUND FÜR KUGELFÜHRUNGSEINHEIT | COLONNA GUIDA A UN DIAMETRO LISCIA



Material: 1.7131
 Hardness: 61÷63 HRC
 Execution: fine ground

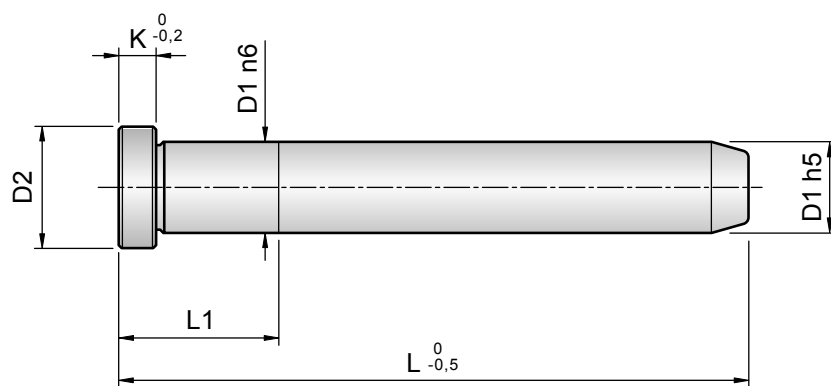
STOCK

3D-CAD



HOW TO ORDER

C012 * D1 * L (C0121280)



D1	D2	K	L1	L							
				80	100	125	160	200	250	315	400
12	16	4	16	•	•	•					
16	20	6	20	•	•	•	•	•			
20	24		22		•	•	•	•	•		
25	30		25			•	•	•	•	•	
32	37	8	35			•		•	•	•	
40	45					•		•	•	•	•
50	55	10	45							•	•
60	65		55							•	•

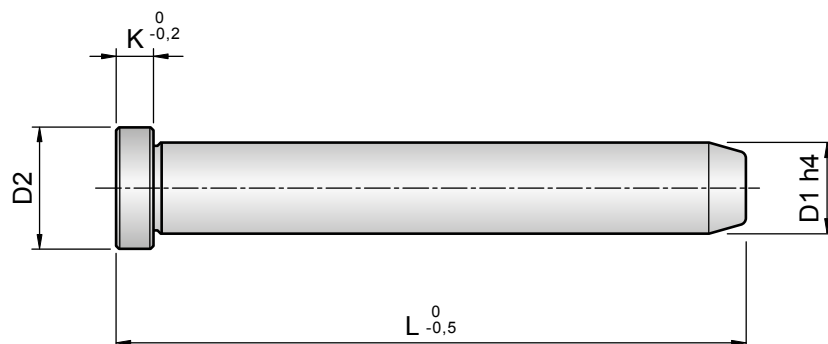
C012H

GUIDE PILLAR

FÜHRUNGSBOLZE MIT BUND FÜR KUGELFÜHRUNGSEINHEIT | COLONNA GUIDA A UN DIAMETRO LISCIA



Material: 1.7131 Hardness: 61÷63 HRC Execution: fine ground	STOCK	3D-CAD 	HOW TO ORDER C012H * D1 * L (C012H1280)
--	-------	------------	---



D1	D2	K	L					
			80	100	120	140	160	200
12	16	4	•	•	•			
18	22	6			•	•	•	•
24	28						•	•
30	36						•	•

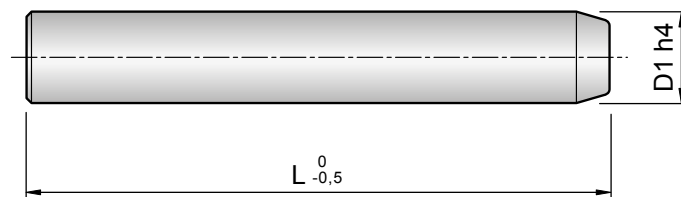
C013H

STRAIGHT GUIDE PILLAR

FÜHRUNGSBOLZE OHNE BUND FÜR KUGELFÜHRUNGSEINHEIT | COLONNA LISCIA



Material: 1.7131 Hardness: 61÷63 HRC Execution: fine ground	STOCK	3D-CAD 	HOW TO ORDER C013H * D1 * L (C013H12100)
--	-------	------------	--



D1	L					
	100	120	140	160	200	250
12	•	•				
18		•	•	•		
24			•	•	•	
30				•	•	•

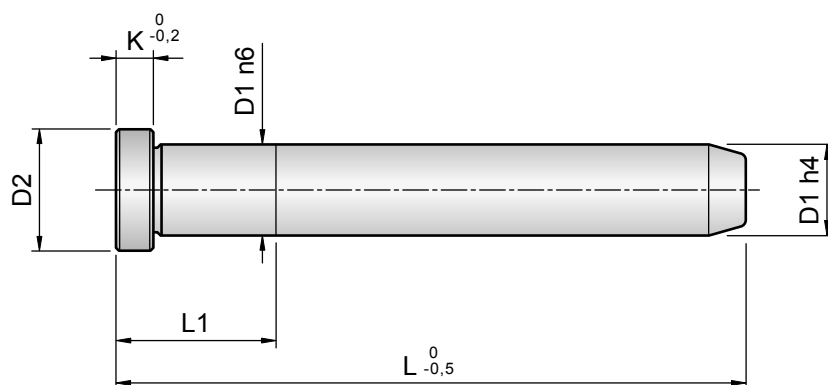
C012M

GUIDE PILLAR

FÜHRUNGSBOLZE MIT BUND FÜR KUGELFÜHRUNGSEINHEIT | COLONNA GUIDA A UN DIAMETRO LISCIA



Material: 1.7131 Hardness: 61÷63 HRC Execution: fine ground	STOCK	3D-CAD 	HOW TO ORDER C012M * D1 * L (C012M1280)
--	-------	------------	---



D1	D2	K	L1	L									
				80	100	120	140	160	180	200	250	280	320
12	15	4	17	•	•	•	•	•	•				
18	21	6	22	•	•	•	•	•	•	•	•		
24	27		27		•	•	•	•	•	•	•	•	
30	35		36			•	•	•	•	•	•	•	•

C013M

STRAIGHT GUIDE PILLAR

FÜHRUNGSBOLZE OHNE BUND FÜR KUGELFÜHRUNGSEINHEIT | COLONNA LISCIA



Material: 1.7131
 Hardness: 61÷63 HRC
 Execution: fine ground

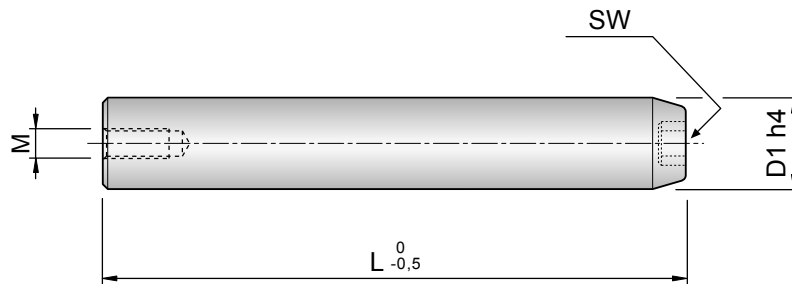
STOCK

3D-CAD



HOW TO ORDER

C013M * D1 * L (C013M1280)



D1	M	SW	L									
			80	100	120	140	160	180	200	220	250	280
12	M8	5	•	•	•	•	•	•				
18	M10	6	•	•	•	•	•	•	•			
24	M12	8		•	•	•	•	•	•	•	•	
30	M16				•	•	•	•	•	•	•	•

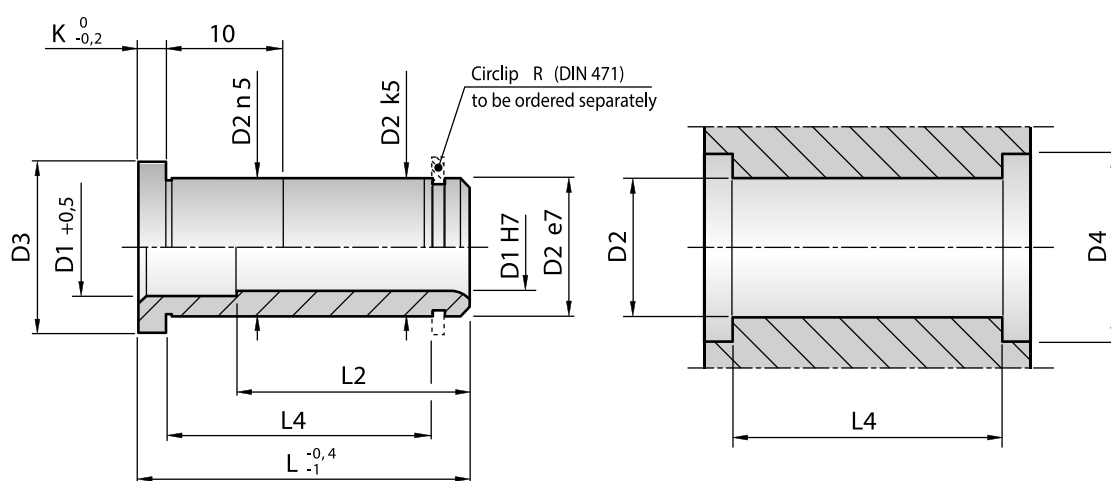
B11M

GUIDE BUSH WITH COLLAR

FÜHRUNGSBUCHSE OHNE ZENTRIERANSATZ | BUSSOLA GUIDA CON COLLARE



Material: 1.7131 Hardness: 61÷63 HRC Execution: inner and outer diameter fine ground	STOCK	3D-CAD 	HOW TO ORDER B11M * D1 * L (B11M1417)
---	-------	------------	---



D1	D2	D3	D4	K	L2	L4	L																											
							17	22	27	36	46	56	66	76	86	96	106	116	136	156	176	196	216	236	246	256								
14 - 15	20	25	29	6	17	7	•																											
					22	12		•																										
					27	17			•																									
					36	26				•																								
					46	36					•																							
						46							•																					
						56								•																				
						66									•																			
						76											•																	
					86													•																
16	22	26	30,8	6	17	7	•																											
					22	12			•																									
					27	17				•																								
					36	26					•																							
					46	36						•																						
						46								•																				
						56										•																		

D1	D2	D3	D4	K	L2	L4	L																								
							17	22	27	36	46	56	66	76	86	96	106	116	136	156	176	196	216	236	246	256					
16	22	26	30,8	6	46	66																									
						76																									
						86																									
18 - 20	26	31	35,5		17	7	•																								
					22	12		•																							
					27	17			•																						
					36	26				•																					
					46	36					•																				
					56	46							•																		
						56								•																	
						66									•																
						76										•															
						86											•														
96														•																	
22 - 24	30	35	40,5		106																										
					22	11		•																							
					27	16			•																						
					36	25				•																					
					46	35					•																				
					56	45						•																			
					66	55							•																		
30 - 32	42	47	55,7		76	65																									
						75																									
						85																									
					95																										
					105																										
					125																										
					145																										
40 - 42	54	59	69,2		96	27	14			•																					
						36	23				•																				
						46	33					•																			
					56	43						•																			
					66	53							•																		
					76	63								•																	
					86	73									•																
50 - 52	66	71	82,4		116	83																									
						103																									
						123																									
					143																										
					163																										
					46	28																									
					56	38																									
66	48																														
76	58																														
86	68																														
96	78																														
106	88																														
60 - 62	72	83	93,2		126	98																									
						118																									
						138																									
				158																											
				178																											
				198																											
				218																											
238																															
70 - 72	84	95	105,2	146	238																										
					258																										
					278																										
				298																											
				318																											
				338																											
				358																											
80 - 82	96	107	117,2	166	378																										
					398																										
					418																										
				438																											
				458																											
				478																											
				498																											
90 - 92	108	119	129,2	186	518																										
					538																										
					558																										
				578																											
				598																											
				618																											
				638																											
100 - 102	120	131	141,2	206	658																										
					678																										
					698																										
				718																											
				738																											
				758																											
				778																											
110 - 112	132	143	153,2	226	818																										
					838																										
					858																										
				878																											
				898																											
				918																											
				938																											
120 - 122	144	155	165,2	246	958																										
					978																										
					998																										
				1018																											
				1038																											
				1058																											
				1078																											
130 - 132	156	167	177,2	266	1118																										
					1138																										
					1158																										
				1178																											
				1198																											
				1218																											
				1238																											
140 - 142	168	179	189,2	286	1278																										
					1298																										
					1318																										
				1338																											
				1358																											
				1378																											
				1398																											
150 - 152	180	191	199,2	306	1438																										
					1458																										
					1478																										
				1498																											
				1518																											
				1538																											
				1558																											
160 - 162	192	203	211,2	326	1518																										
					1538																										
					1558																										
				1578																											
				1598																											
				1618																											
				1638																											
170 - 172	204	215	223,2	346	1598																										
					1618																										
					1638																										
				1658																											
				1678																											
				1698																											
				1718																											
180 - 182	216	227	235,2	366	1678																										
					1698																										
					1718																										
				1738																											
				1758																											

to be continued.....

B11M

GUIDE BUSH WITH COLLAR

FÜHRUNGSBUCHSE OHNE ZENTRIERANSATZ | BUSSOLA GUIDA CON COLLARE



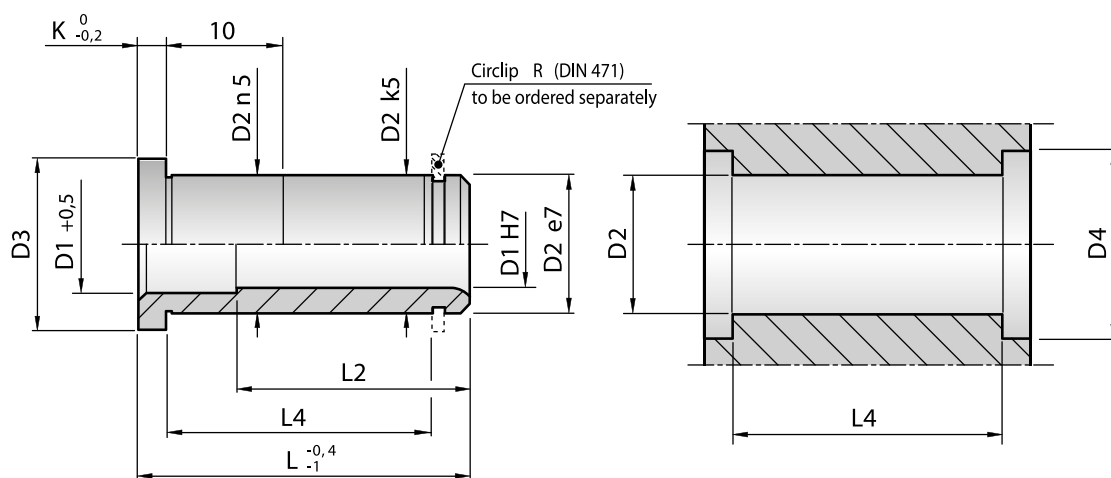
Material: 1.7131
Hardness: 61÷63 HRC
Execution: inner and outer diameter fine ground

STOCK

3D-CAD



HOW TO ORDER

B11M * D1 * L (B11M1417)


.....continue

D1	D2	D3	D4	K	L2	L4	L																			
							17	22	27	36	46	56	66	76	86	96	106	116	136	156	176	196	216	236	246	256
50 - 52	66	71	82,4	10	116	118												•								
						138													•							
						158														•						
						178															•					
						198																•				
						218																		•		
						228																			•	
						238																				•
60	80	85	98,1	20	66	38						•														
					76	48						•														
					86	58							•													
					96	68								•												
					116	88									•											
					136	108											•									
						128												•								
						168													•							
						218															•				•	

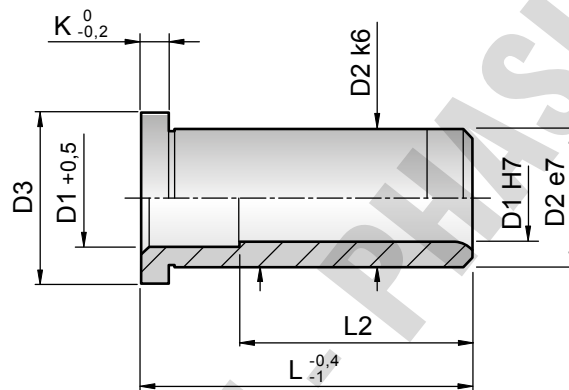
B11H

GUIDE BUSH WITH COLLAR

FÜHRUNGSBUCHSE OHNE ZENTRIERANSATZ | BUSSOLA GUIDA CON COLLARE



Material: 1.7131 Hardness: 61÷63 HRC Execution: inner and outer diameter fine ground	STOCK	3D-CAD 	HOW TO ORDER B11H * D1 * L (B11H6096)
---	-------	------------	---



D1	D2	D3	K	L2	L					
					96	116	136	156	196	246
60	80	86	20	96	•					
				116		•				
				136			•	•	•	•

B10M

GUIDE BUSH WITH CENTERING COLLAR

FÜHRUNGSBUCHSE MIT ZENTRIERANSATZ | BUSSOLA SPALLATA



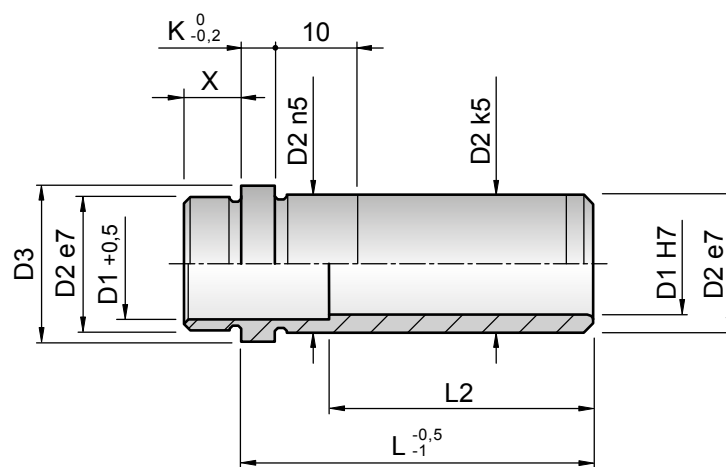
Material: 1.7131
Hardness: 61÷63 HRC
Execution: inner and outer diameter fine ground

STOCK



HOW TO ORDER

B10M * D1 * L (B10M1417)



D1	D2	D3	K	X	L2	L																					
						17	22	27	36	46	56	66	76	86	96	106	116	126	136	156	176	196	216	236	246	256	
14 - 15	20	25	6	9	17	•																					
					22		•																				
					27			•																			
					36				•																		
					46					•	•	•	•	•	•												
18 - 20	26	31			17	•																					
					22		•																				
					27			•																			
					36				•																		
					46					•																	
22 - 24	30	35			56						•	•	•	•	•	•	•	•	•								
					22		•																				
					27			•																			
					36				•																		
					46					•																	
30 - 32	42	47			56						•																
					66							•															
					76								•	•	•	•	•	•	•	•							
					86									•													
					96										•	•	•	•	•	•	•	•					

D1	D2	D3	K	X	L2	L																					
						17	22	27	36	46	56	66	76	86	96	106	116	126	136	156	176	196	216	236	246	256	
40 - 42	54	59	10	12	36				•																		
					46					•																	
					56						•																
					66							•															
					76								•														
					86									•													
					96										•	•											
116														•		•	•	•	•	•	•	•	•	•			
50 - 52	66	71			56					•																	
					66							•															
					76								•														
					86									•													
					96										•												
			116												•		•	•	•	•	•	•	•		•		

B3M

EJECTOR GUIDE BUSH

FÜHRUNGSBUCHSE FÜR AUSWERFERPAKET | BUSSOLA SPALLATA



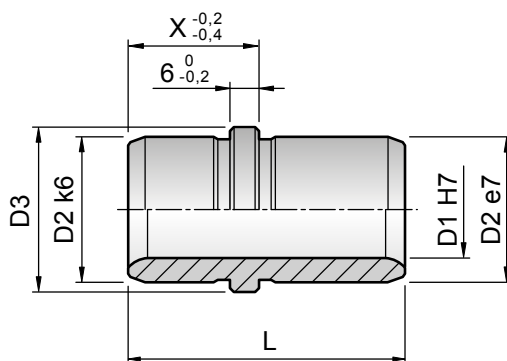
Material: 1.7131
Hardness: 61÷63 HRC
Execution: inner and outer diameter fine ground



3D-CAD



HOW TO ORDER
B3M * D1 * L (B3M1021)



D1	D2	D3	X	L									
				21	26	29	34	39	44	49	63	73	82
10	14	17	12	◇									
12	16	19	17		◇								
14	18	21	22			◇		◇					
18	24	27	17			◇							
			22				◇	◇					
			27						◇	◇			
20	26	29	22				◇						
			27							◇			
22	28	31	22					◇					
			27							◇			
24	30	33	22					◇					
			27						◇	◇			
			36								◇		
30	38	41	27							◇			
			36								◇		
40	48	51	46									◇	◇
													◇

B3BM

EJECTOR BRONZE GUIDE BUSH

FÜHRUNGSBUCHSE VOLLBRONZE FÜR AUSWERFERPAKET | BUSSOLA SPALLATA BRONZO INTEGRALE



Material: bronze

Hardness: -

Execution: inner and outer diameter fine ground

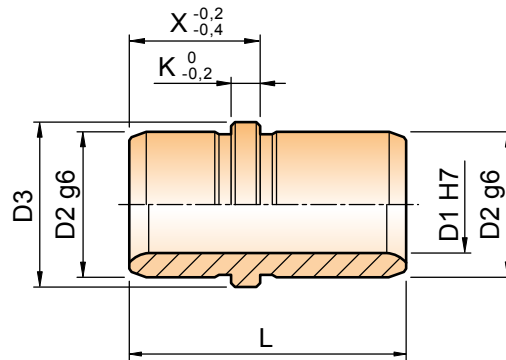


3D-CAD



HOW TO ORDER

B3BM * D1 * L (B3BM1021)



D1	D2	D3	K	X	L										
					15	20	21	26	29	34	39	44	49	63	73
10	14	16	3	10	◇	◇									
		17		12			◇								
12	16	19	6	17				◇							
14	18	21							◇	◇					
				22						◇	◇				
18	24	27		17					◇						
				22					◇	◇					
				27							◇	◇			
20	26	29		22							◇				
				27								◇			
22	28	31		22							◇				
				27									◇		
24	30	33		22							◇				
				27								◇	◇		
				36										◇	
30	38	41		27									◇		
				36										◇	
40	48	51		46											◇

B60MH

CENTRING SLEEVE

ZENTRIERHÜLSE | BUSSOLA DI CENTRAGGIO

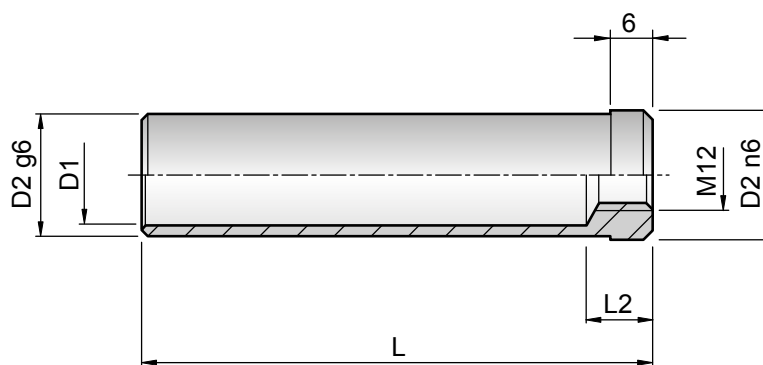


Material: 1.7131
Hardness: 61÷63 HRC
Execution: outer diameter fine ground

STOCK



HOW TO ORDER
B60MH * D2 * L (B60MH2030)



D2	D1	L2	L																											
			30	40	50	60	70	80	90	100	110	120	130	140	160	180	200	220	240	260	280	300	320	340	360	380				
20	16	14	•	•	•	•	•	•	•	•	•		•	•																
26	21		•	•	•	•	•	•	•	•	•	•	•	•	•															
30	25			•	•	•	•	•	•	•	•	•	•	•	•	•	•													
42	33	18		•		•		•		•		•		•	•	•	•	•	•		•									
54	43					•		•		•		•			•	•	•	•	•	•	•	•	•	•	•	•	•			
66	54	26						•				•		•	•	•	•	•	•	•	•	•	•	•	•	•	•			

B12M

BALL CAGE AND GUIDE BUSH FOR EJECTOR SET

KUGELFÜHRUNGSBUCHSE FÜR AUSWERFERPAKET | GRUPPO BUSSOLA / GABBIA A SFERE PER TAVOLINO



Material: Bush: 1.7131 ; Cage: brass
Hardness: Bush: 61÷63 HRC
Execution: inner diameter honed; outer diameter fine ground

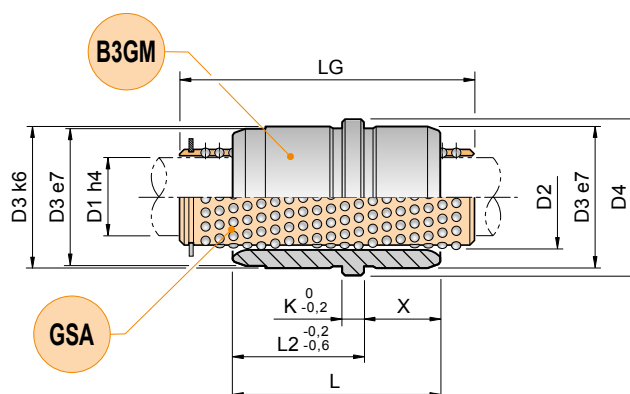
STOCK

3D-CAD



HOW TO ORDER

B12M * D1 * LG (B12M1240)



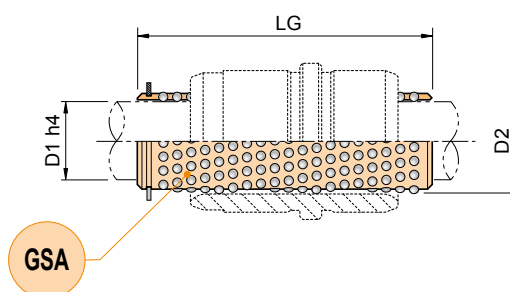
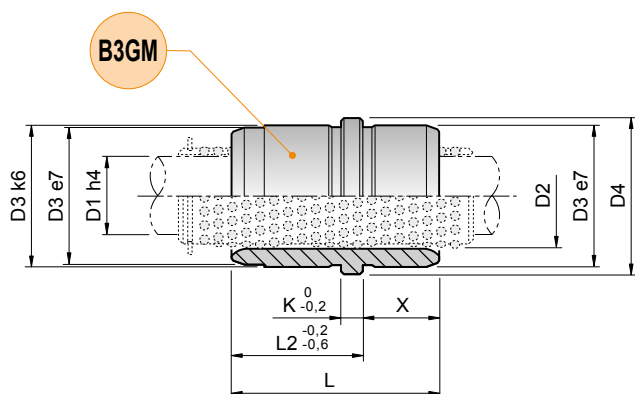
D1	D2	D3	D4	X	K	L	L2	LG						
								40	45	56	71	80	95	105
12	16	22	25	9	6	26	17	•		•				
18	24	30	33	12		34	22		•	•	•			
24	30	38	41	17		44	27			•	•	•		
30	38	46	49	22		54	32				•		•	•



HOW TO ORDER
B3GM * D1 (B3GM12)



HOW TO ORDER
GSA * D1 * LG (GSA1240)



D1	L			
	26	34	44	54
12	•			
18		•		
24			•	
30				•

D1	LG						
	40	45	56	71	80	95	105
12	•		•				
18		•	•	•			
24			•	•	•		
30				•		•	•

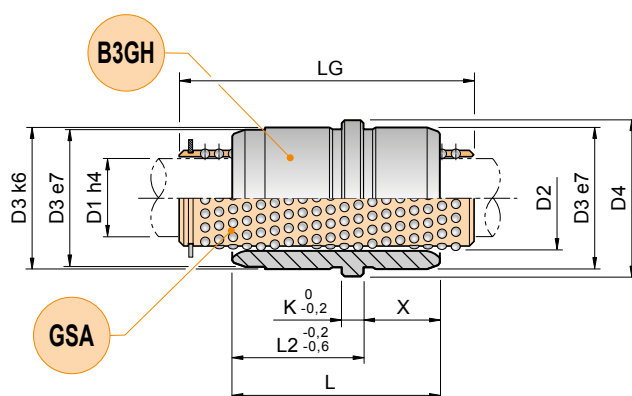
B12H

BALL CAGE AND GUIDE BUSH FOR EJECTOR SET

KUGELFÜHRUNGSBUCHSE FÜR AUSWERFERPAKET | GRUPPO BUSSOLA / GABBIA A SFERE PER TAVOLINO

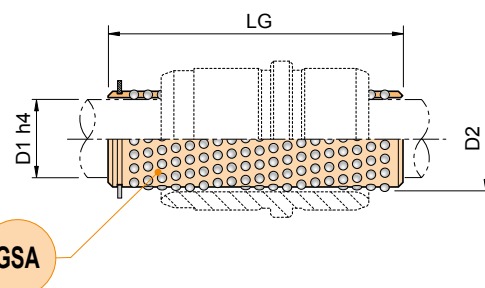
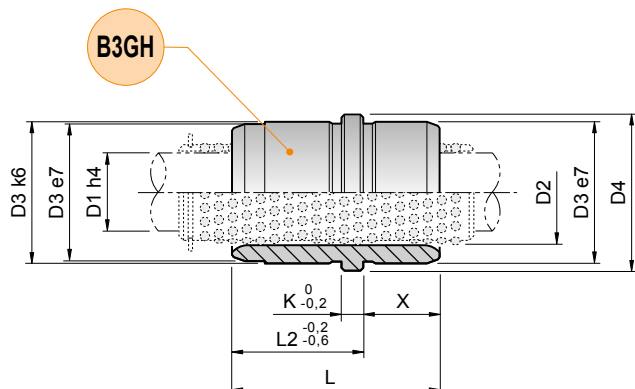


Material: Bush: 1.7131 ; Cage: brass Hardness: Bush: 61÷63 HRC Execution: inner diameter honed; outer diameter fine ground	STOCK	3D-CAD	HOW TO ORDER B12H * D1 * LG (B12H1240)
---	-------	--------	--



D1	D2	D3	D4	X	K	L	L2	LG					
								40	45	56	71	75	95
12	16	22	26	6	6	24	18	•		•			
18	24	30	35	11		34	23		•	•	•		
30	38	46	52	21		54	33			•		•	•


 HOW TO ORDER
B3GH * D1 (B3GH12)

 HOW TO ORDER
GSA * D1 * LG (GSA1240)


D1	L		
	24	34	54
12	•		
18		•	
30			•

D1	LG					
	40	45	56	71	75	95
12	•		•			
18		•	•	•		
30			•		•	•

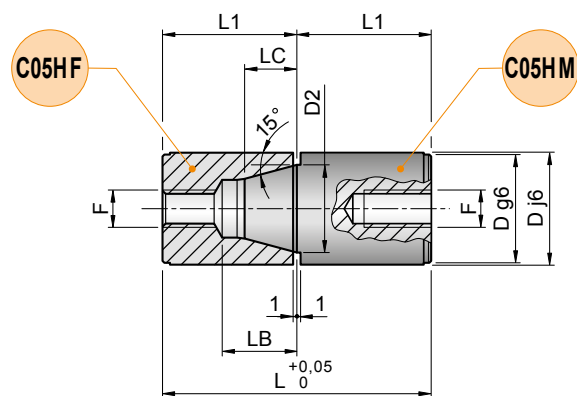
C05H

LOCATING UNIT

ROUND ZENTRIERFÜHRUNG | CENTRAGGI CONICI



Material: 1.7131 Hardness: 61÷63 HRC Execution: fine ground	STOCK	3D-CAD	HOW TO ORDER
			C05H * D * L (C05H1634) only male C05H * D * L * "M" (C05H1634M) only female C05H * D * L * "F" (C05H1634F)



D	D2	L1	LC	LB	F	L			
						34	54	72	92
16	11	17	7	11	5 MA	•			
20	15	27	11	15	8 MA		•		
25 - 26	20		10	16			•		
30 - 32	25	36	14	22	10 MA			•	
40 - 42	34	46	19	27					•

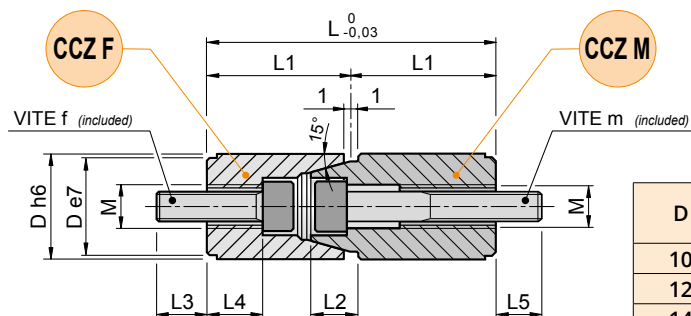
CCZ

LOCATING UNIT

ROUND ZENTRIERFÜHRUNG | CENTRAGGI CONICI



Material: 1.7131 Hardness: 61÷63 HRC Execution: fine ground	STOCK	3D-CAD	HOW TO ORDER
			CCZ * D (CCZ10) only male CCZ * D * "M" (CCZ10M) only female CCZ * D * "F" (CCZ10F)



D	L1	L2	L3	L4	L5	M	VITE m	VITE f	L				
									24	34	54	72	92
10	12	3,3	8,5	4,9	8	M4	3x20	3x12	•				
12		4,5	7,5	8,5			3x25	3x16		•			
14	17	6	8	6	7,5	M5	4x25	4x14		•			
16				5,8						•			
20	27	9	9,5	10,6	12	M8	6x40	6x20			•		
25 - 26		10	11	9,2	11						•		
30 - 32	36	14	13	12,2	15	M10	8x55	8x25				•	
42	46	18		16,5	16		8x70	8x30					•

BRSA

RECIRCULATING BALL GUIDE BUSH FOR EJECTOR SET

KUGELUMLAUFBUCHSE FÜR AUSWERFERPAKET | BUSSOLA CON RICIRCOLO SFERE

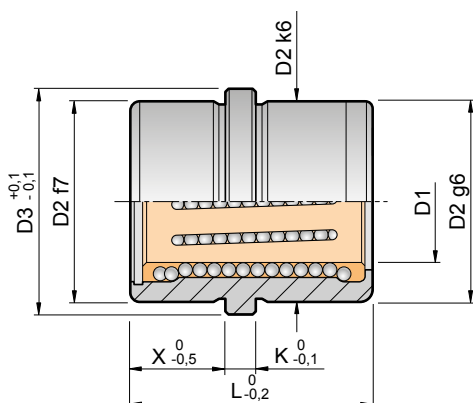


Material: Bush: 1.7131; Ball carrier: brass; Balls: hardened steel conforming to DIN 5401
Hardness: 60÷62 HRC
Execution: external diameter fine ground

STOCK



HOW TO ORDER
BRSA * D1 * L1 (BRSA1226)



D1	D2	D3	K	X	L			
					26	35	45	55
12	22	26	6	6	•			
18	30	35		11		•		
24	38	43		16			•	
30	46	52		21				•

BRSB

RECIRCULATING BALL GUIDE BUSH FOR EJECTOR SET

KUGELUMLAUFBUCHSE FÜR AUSWERFERPAKET | BUSSOLA CON RICIRCOLO SFERE

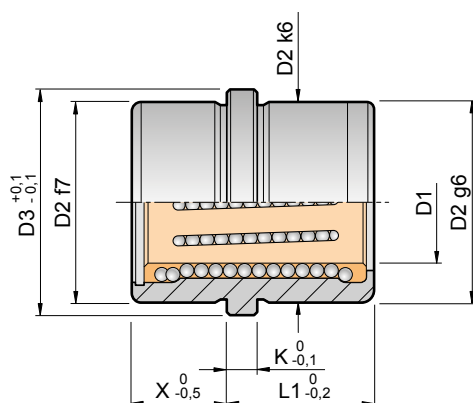


Material: Bush: 1.7131; Ball carrier: brass; Balls: hardened steel conforming to DIN 5401
Hardness: 60÷62 HRC
Execution: external diameter fine ground

STOCK



HOW TO ORDER
BRSB * D1 * L1 (BRSB1222)



D1	D2	D3	K	X	L1					
					22	26	35	45	55	63
12	24	28	6	8	•					
16	28	32		9	•					
20	32	36				•				
25	40	45				•				
32	50	56	8	10			•			
40	60	66					•			
50	70	76	10	12				•		
60	85	91						•		

BRSC

RECIRCULATING BALL GUIDE BUSH FOR EJECTOR SET

KUGELUMLAUFBUCHSE | BUSSOLA CON RICIRCOLO SFERE



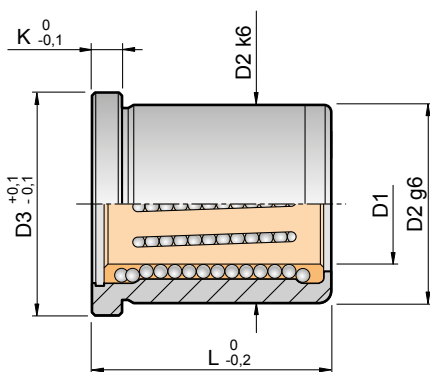
Material: Bush: 1.7131; Ball carrier: brass; Balls: hardened steel conforming to DIN 5401
Hardness: 60÷62 HRC
Execution: external diameter fine ground

STOCK



HOW TO ORDER

BRSC * D1 * L (BRSC2035)



D1	D2	D3	K	L			
				35	45	55	63
20	32	36	6	•	•	•	•
25	40	45		•	•	•	•
32	50	56	8	•	•	•	•
40	60	66		•	•	•	•

BRSD

RECIRCULATING BALL GUIDE BUSH

KUGELUMLAUFBUCHSE | BUSSOLA CON RICIRCOLO SFERE



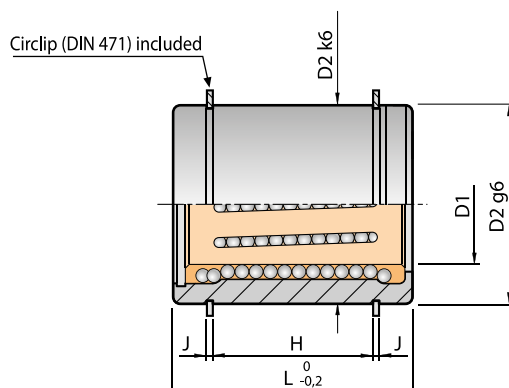
Material: Bush: 1.7131; Ball carrier: brass; Balls: hardened steel conforming to DIN 5401
Hardness: 60÷62 HRC
Execution: external diameter fine ground

STOCK



HOW TO ORDER

BRSD * D1 * L (BRSD1230)



D1	D2	H	J	L				
				30	35	45	55	63
12	24	20	1,3	•	•	•	•	•
16	28	19	1,6	•	•	•	•	•
20	32	24		•	•	•	•	•
25	40	34	1,8	•	•	•	•	•
32	50	23		•	•	•	•	•
40	60	33	2,1	•	•	•	•	•
		43		•	•	•	•	•
		33	2,1	•	•	•	•	•
		51		•	•	•	•	•
		33	2,1	•	•	•	•	•
		51		•	•	•	•	•

BRSH

RECIRCULATING BALL GUIDE BUSH FOR EJECTOR SET

KUGELUMLAUFBUCHSE FÜR AUSWERFERPAKET | BUSSOLA CON RICIRCOLO SFERE

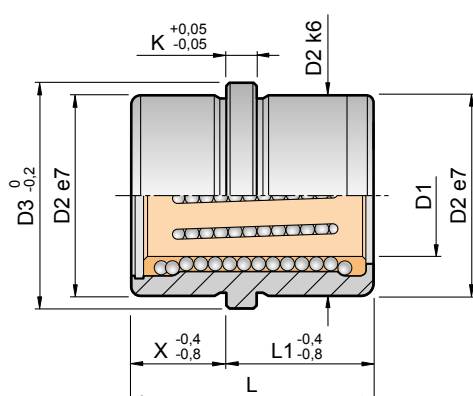


Material: Bush: 1.7131; Ball carrier: brass; Balls: hardened steel conforming to DIN 5401
Hardness: 60÷62 HRC
Execution: external diameter fine ground

STOCK



HOW TO ORDER
 BRSH * D1 * L1 (BRSH1217)



D1	D2	D3	K	X	L	L1	
						17	22
12	24	28	6	9	26	•	
18	32	36		17	39		•
24	39	43		12	29	•	
30	50	54		17	39		•

BRSM

RECIRCULATING BALL GUIDE BUSH FOR EJECTOR SET

KUGELUMLAUFBUCHSE FÜR AUSWERFERPAKET | BUSSOLA CON RICIRCOLO SFERE

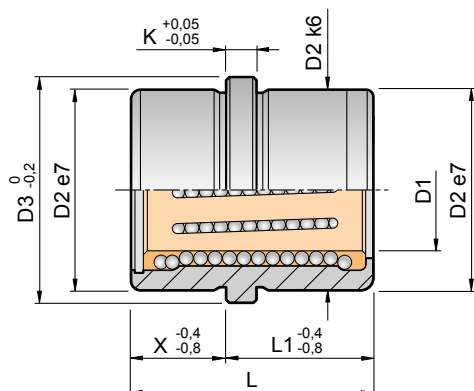


Material: Bush: 1.7131; Ball carrier: brass; Balls: hardened steel conforming to DIN 5401
Hardness: 60÷62 HRC
Execution: external diameter fine ground

STOCK



HOW TO ORDER
 BRSM * D1 * L (BRSM1226)



D1	L1	D2	D3	K	X	L							
						26	29	34	39	44	49	54	63
12	17	22	25	6	9	•							
					12		•						
18	22	30	33					•					
24	27	38	41		17				•				
					22					•			
30	32	46	49								•		
	36				27							•	

ATFH

SEATING WASHERS FOR EJECTOR SET

ANSCHLAGSCHEIBE | APPOGGI TAVOLINO

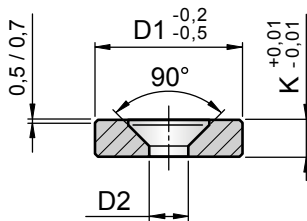


Material: 1.7131
 Hardness: 61÷63 HRC
 Execution: fine ground

STOCK



HOW TO ORDER
 ATFH * D1 (ATFH18)



D1	D2	K
18	4,3	3
20	5,3	4
28	4,3	3
30	5,3	4

R

CIRCLIP DIN 471

SICHERUNGSRING DIN 471 | SEEGER DIN 471

DIN 471

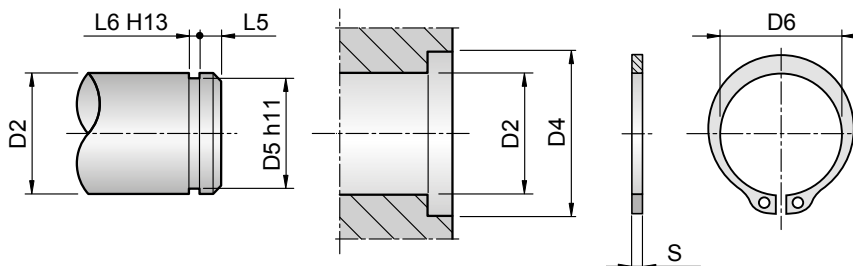


Material: spring steel
 Hardness: -
 Execution: -

STOCK



HOW TO ORDER
 R * D2 (R20)



D2	D4	D5	D6	L5	L6	S
20	29	19	18,5	1,5	1,3	1,2
22	30,8	21	20,5			
26	35,5	24,9	24,2	1,7		
30	40,5	28,6	27,9	2,1	1,6	1,5
42	55,7	39,5	38,5	3,8	1,85	1,75
54	69,2	51	49,8	4,5	2,15	2
66	82,4	62	60,8		2,65	2,5
80	98,1	76,5	74,5	5,3		

C1

GUIDE PILLAR

FÜHRUNGSSÄULE OHNE ZENTRIERANSATZ | COLONNA GUIDA A DUE DIAMETRI



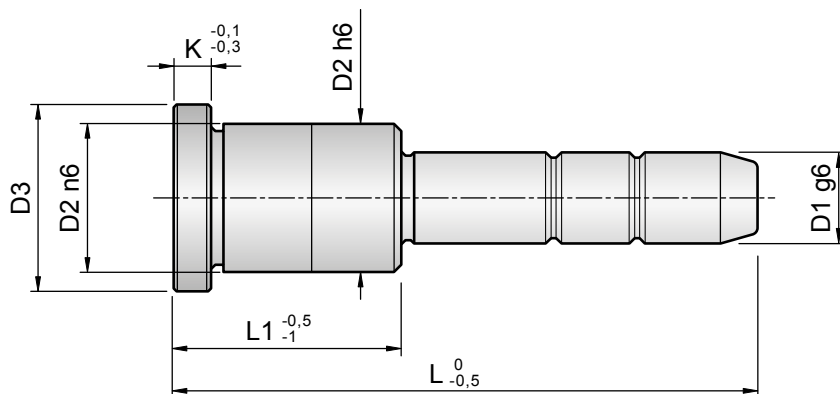
Material: 1.7131
Hardness: 61÷63 HRC
Execution: fine ground

STOCK



HOW TO ORDER

C1 * D1 * L1 * L (C1122250)
C1 * D1 * D2 * L1 * L (only for D1 20-25)



D1	D2	D3	K	L1	L																		
					50	60	70	80	90	100	120	140	160	180	200	220	240	260	280	300	340	400	
12	18	22	5	22	•	•	•	•	•	•													
				26	•	•	•	•	•	•													
				36	•	•	•	•	•	•	•												
				46			•	•	•	•	•												
				56					•	•	•												
14	20	24		22	•	•	•	•	•	•													
				26		•	•	•	•	•	•												
				36			•	•	•	•	•												
				46			•	•	•	•	•												
				56					•	•	•												
16	22	26		22	•	•	•	•	•	•	•												
				26	•	•	•	•	•	•	•	•											
				36		•	•	•	•	•	•	•											
				46			•	•	•	•	•	•	•										
				56				•	•	•	•	•	•	•									
				66						•	•	•	•	•	•								
				76							•	•	•	•	•	•							
				96								•	•	•	•	•							
18	26	30		26		•	•	•	•	•													
				36		•	•	•	•	•	•	•											
				46			•	•	•	•	•	•	•										
				56				•		•	•	•	•	•									
				66						•	•	•	•	•	•								
				76								•	•	•	•								

D1	D2	D3	K	L1	L																	
					50	60	70	80	90	100	120	140	160	180	200	220	240	260	280	300	340	400
20	28	32	6	26		•	•	•	•	•	•	•										
				36		•	•	•	•	•	•	•										
				46			•	•	•	•	•	•										
				56				•	•	•	•	•	•									
				66						•	•	•	•	•								
				76							•	•	•	•								
				86								•	•	•	•							
				96									•	•	•	•						
	30	34		26		•	•	•	•	•	•	•										
				36		•	•	•	•	•	•	•	•									
				46			•	•	•	•	•	•	•									
				56				•	•	•	•	•	•	•								
				66						•	•	•	•	•	•							
				76							•	•	•	•	•							
				86								•	•	•	•	•						
				96									•	•	•	•						
25	34	38	7	26				•	•	•												
				36				•	•	•	•	•	•	•								
				46					•	•	•	•	•	•	•							
				56						•	•	•	•	•	•	•						
				66							•	•	•	•	•	•	•	•	•			
				76							•	•	•	•	•	•	•	•	•	•		
				86								•	•	•	•	•	•	•	•	•		
				96								•	•	•	•	•	•	•	•	•		
				116									•	•	•	•	•	•	•	•		
	36	40		26				•	•	•												
				36				•	•	•	•	•	•	•								
				46					•	•	•	•	•	•	•							
				56						•	•	•	•	•	•	•	•					
				66							•	•	•	•	•	•	•	•	•	•		
				76							•	•	•	•	•	•	•	•	•	•		
				86								•	•	•	•	•	•	•	•	•		
				96								•	•	•	•	•	•	•	•	•		
				116									•	•	•	•	•	•	•	•		
32	40	45	36						•	•												
			46						•	•	•	•										
			56						•	•	•	•	•	•	•							
			66							•	•	•	•	•	•	•	•					
			76								•	•	•	•	•	•	•	•				
			86									•	•	•	•	•	•	•				
			96										•	•	•	•	•	•	•	•		
			106										•	•	•	•	•	•	•	•		
			116											•	•	•	•	•	•	•	•	
			126												•	•	•	•	•	•	•	
40	48	52	8	146											•	•	•	•	•	•	•	
				46							•	•	•	•	•							
				56							•	•	•	•	•							
				66								•	•	•	•	•						
				76								•	•	•	•	•	•					
				86									•	•	•	•	•	•	•			
				96									•	•	•	•	•	•	•	•	•	
				106										•	•	•	•	•	•	•	•	
				116											•	•	•	•	•	•	•	•
				126											•	•	•	•	•	•	•	•
50	60	65	10	96											•	•	•	•	•	•	•	
				126												•	•	•	•	•	•	•
				146													•	•	•	•	•	•

C1S

GUIDE PILLAR WITH CENTRING COLLAR

FÜHRUNGSSÄULE MIT ZENTRIERANSATZ | COLONNA GUIDA SPALLATA



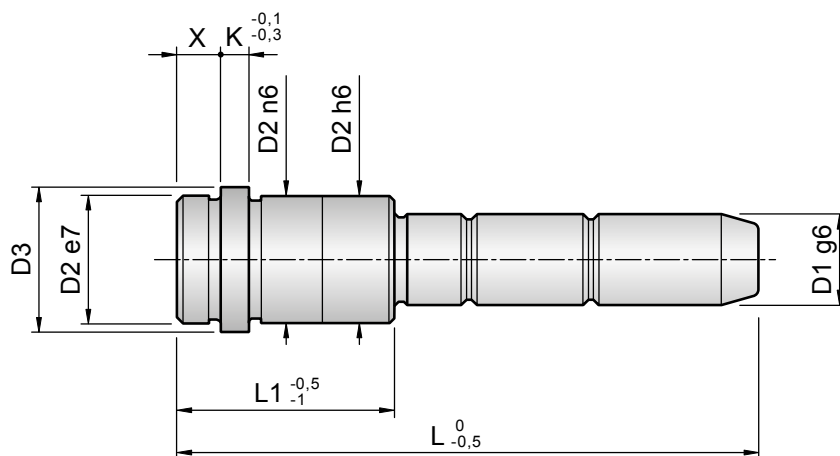
Material: 1.7131
 Hardness: 61÷63 HRC
 Execution: fine ground

STOCK



HOW TO ORDER

C1S * D1 * L1 * L (C1S163680)
 C1S * D1 * D2 * L1 * L (only for D1 20-25)



D1	D2	D3	K	X	L1	L							
						80	90	110	130	150	170	190	210
16	22	26	5	10	36	•	•	•	•				
					46		•	•	•	•			
					56			•	•	•	•		
					66			•	•	•	•		
					76				•	•	•	•	
					86				•	•	•	•	
20	28	32	6		46	•	•	•	•	•			
					56		•	•	•	•	•		
					66			•	•	•	•		
					76				•	•	•		
					86				•	•	•	•	
					106				•	•	•	•	•
	30	34	6		46	•	•	•	•	•			
					56		•	•	•	•	•		
					66			•	•	•	•		
					76				•	•	•		
					86				•	•	•	•	
					106				•	•	•	•	•
25	34	38	7		46		•	•	•	•			
					56		•	•	•	•	•		
					66			•	•	•	•		
					76				•	•	•	•	
					86				•	•	•	•	
					106				•	•	•	•	•
	36	40	7		46		•	•	•	•			
					56		•	•	•	•	•		
					66			•	•	•	•		
					76				•	•	•	•	
					86				•	•	•	•	
					106				•	•	•	•	•

D1	D2	D3	K	X	L1	L							
						80	90	110	130	150	170	190	210
32	40	45	7	10	46			•	•	•			
					56			•	•	•	•		
					66			•	•	•	•	•	
					76				•	•	•	•	
					86					•	•	•	
106							•	•	•				
40	48	52	8		56				•	•			
					66				•	•	•		
					76					•	•	•	•
					86					•	•	•	•
					106						•	•	•

C2

GUIDE PILLAR

FÜHRUNGSSÄULE | COLONNA GUIDA A UN DIAMETRO

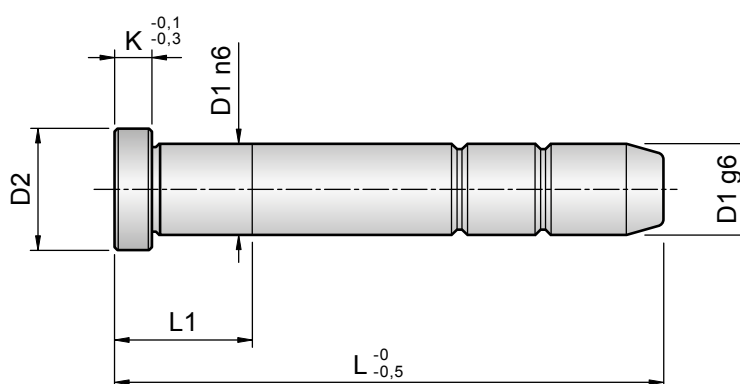


Material: 1.7131
Hardness: 61÷63 HRC
Execution: fine ground

STOCK



HOW TO ORDER
C2 * D1 * L (C21250)



D1	D2	K	L1	L																											
				50	60	70	80	90	100	110	120	130	140	150	160	180	200	220	240	260	280	300	350	400	450	500	600	800			
12	16	5	13	•	•	•																									
			20				•	•																							
			25						•		•		•		•																
14	18		13	•	•	•																									
			20				•	•																							
			25						•	•	•	•	•	•	•																
16	20		30														•														
			13	•	•	•																									
			20				•	•																							
18	22		25						•	•	•	•	•	•	•																
			30														•	•	•												
		13	•	•	•																										
20	24	6	20				•	•																							
			26						•	•	•	•	•	•	•																
			31													•	•	•													
			41																•	•	•										
			51																			•									
			25	30	7	22				•	•																				
27								•		•		•		•																	
32															•	•	•														
42																		•	•	•											
52																					•										
62																							•	•							

D1	D2	K	L1	L																											
				50	60	70	80	90	100	110	120	130	140	150	160	180	200	220	240	260	280	300	350	400	450	500	600	800			
32	37	7	27									•		•		•															
			32													•	•	•													
			42																•	•	•										
			52																			•									
			62																				•	•							
			72																						•						
40	45	8	28								•		•		•																
			33													•	•	•													
			43																•	•	•										
			53																			•									
			63																				•	•							
			73																						•	•					
50	55	10	45																•	•	•										
			55																			•									
			65																				•	•							
			75																					•	•						
			85																							•					
60	68	12	67																			•	•								
			77																					•	•						
			87																								•	•			

B1

GUIDE BUSH WITH COLLAR

FÜHRUNGSBUCHSE OHNE ZENTRIERANSATZ | BUSSOLA GUIDA CON COLLARE



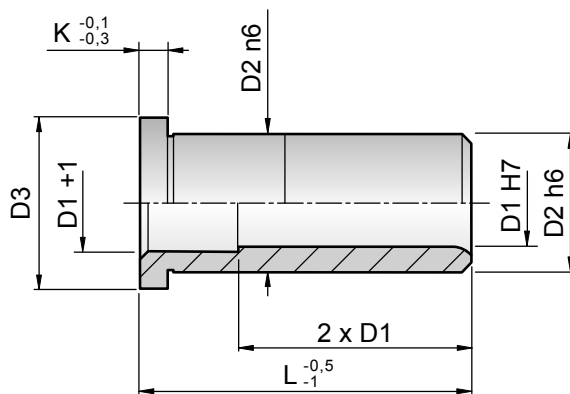
Material: 1.7131
Hardness: 61÷63 HRC
Execution: inner and outer diameter fine ground

STOCK



HOW TO ORDER

B1 * D1 * L (B11222)
B1 * D1 * D2 * L (only for D1 20-25)



D1	D2	D3	K	L																
				22	26	36	46	56	66	76	86	96	106	116	126	136	146	156	176	196
12	18	22	5	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
14	20	24		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
16	22	26		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
18	26	30		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
20	28	32	6	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	30	34		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
25	34	38	7	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	36	40		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
32	40	45		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
40	48	52	8	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
50	60	65	10	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
60	74	84	12	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

B1B

BRONZE GUIDE BUSH WITH COLLAR

FÜHRUNGSBUCHSE VOLLBRONZE | BUSSOLA GUIDA BRONZO INTEGRALE



Material: bronze

Hardness: -

Execution: inner and outer diameter fine ground

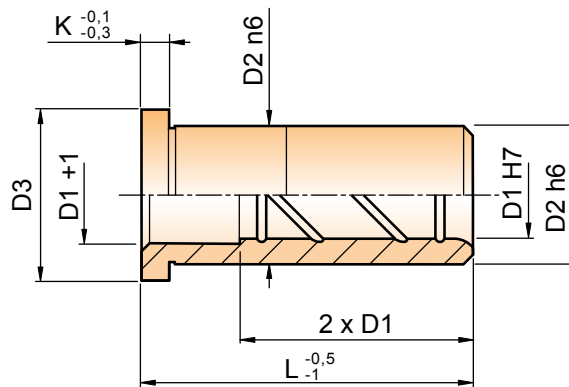
STOCK



HOW TO ORDER

B1B * D1 * L (B1B1622)

B1B * D1 * D2 * L (only for D1 20-25)



D1	D2	D3	K	L																
				22	26	36	46	56	66	76	86	96	106	116	126	136	146	156	176	196
16	22	26	5	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
20	28	32	6	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	30	34		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
25	34	38	7	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	36	40		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
32	40	45	8	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
40	48	52		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
50	60	65	10	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
60	74	84	12	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

B2

SMOOTH BUSH

FÜHRUNGSBUCHSE | BUSSOLA DI GUIDA LISCIA



Material: 1.7131
Hardness: 61÷63 HRC
Execution: inner and outer diameter fine ground

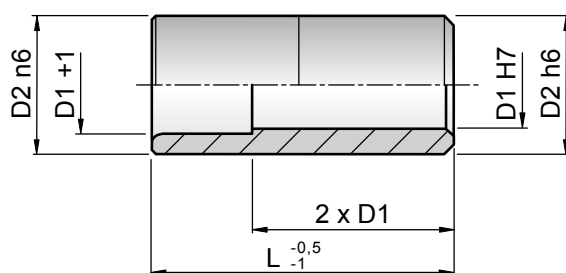
STOCK



HOW TO ORDER

B2 * D1 * L (B21222)

B2 * D1 * D2 * L (only for D1 20-25)



D1	D2	L										
		22	26	36	46	56	66	76	86	96	106	116
12	18	•	•	•	•	•						
14	20	•	•	•	•	•	•					
16	22	•	•	•	•	•	•	•	•	•		
18	26	•	•	•	•	•	•	•	•	•		
20	28		•	•	•	•	•	•	•	•		
	30		•	•	•	•	•	•	•	•		
25	34		•	•	•	•	•	•	•	•	•	•
	36		•	•	•	•	•	•	•	•	•	•
32	40		•	•	•	•	•	•	•	•	•	•
40	48				•	•	•	•	•	•	•	•

B2B

BRONZE SMOOTH BUSH

FÜHRUNGSBUCHSE VOLLBRONZE | BUSSOLA DI GUIDA LISCIA BRONZO INTEGRALE



Material: bronze

Hardness: -

Execution: inner and outer diameter fine ground

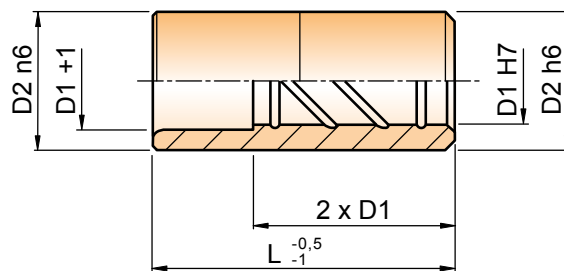
STOCK



HOW TO ORDER

B2B * D1 * L (B2B1622)

B2B * D1 * D2 * L (only for D1 20-25)



D1	D2	L										
		22	26	36	46	56	66	76	86	96	106	116
16	22	•	•	•	•	•	•	•	•	•		
18	26	•	•	•	•	•	•	•	•	•		
20	28		•	•	•	•	•	•	•	•		
	30		•	•	•	•	•	•	•	•		
25	34		•	•	•	•	•	•	•	•	•	•
	36		•	•	•	•	•	•	•	•	•	•
32	40		•	•	•	•	•	•	•	•	•	•
40	48				•	•	•	•	•	•	•	•

B3

EJECTOR GUIDE BUSH

FÜHRUNGSBUCHSE FÜR AUSWERFERPAKET | BUSSOLA SPALLATA



Material: 1.7131
Hardness: 61÷63 HRC
Execution: inner and outer diameter fine ground

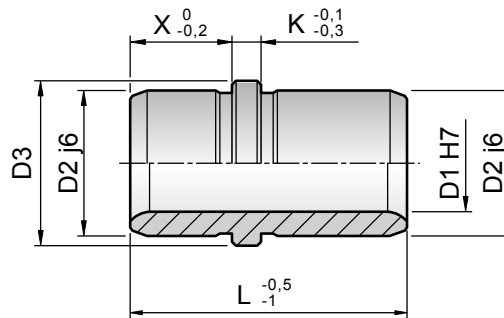
STOCK



HOW TO ORDER

B3 * D1 * L (B31232)

B3 * D1 * D2 * L (only for D1 20-25)



D1	D2	D3	K	X	L						
					32	40	50	65	70	80	90
12	18	22	5	16	•	•					
14	20	24			•	•					
16	22	26			•	•					
18	26	30			•	•					
20	28	32	6		•	•					
	30	34			•	•					
25	34	38	7		•	•					
	36	40			•	•					
32	40	45		25			•	•			
40	48	52	8	32				•		•	
50	60	65	10						•		•

B3B

EJECTOR BRONZE GUIDE BUSH

FÜHRUNGSBUCHSE VOLLBRONZE FÜR AUSWERFERPAKET | BUSSOLA SPALLATA BRONZO INTEGRALE



Material: bronze

Hardness: -

Execution: inner and outer diameter fine ground

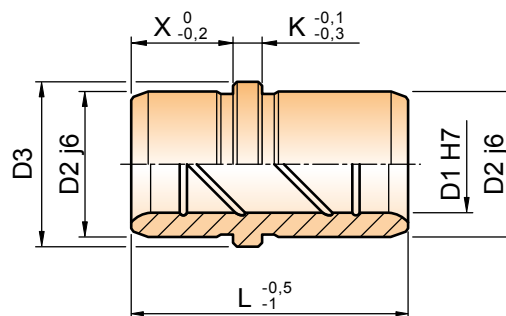
STOCK



HOW TO ORDER

B3B * D1 * L (B3B1232)

B3B * D1 * D2 * L (only for D1 20-25)



D1	D2	D3	K	X	L						
					32	40	50	65	70	80	90
12	18	22	5	16	•	•					
14	20	24			•	•					
16	22	26			•	•					
18	26	30			•	•					
20	28	32	6		•	•					
	30	34			•	•					
25	34	38	7		•	•					
	36	40			•	•					
32	40	45	8	25			•	•			
40	48	52		8				•		•	
50	60	65		10	32					•	

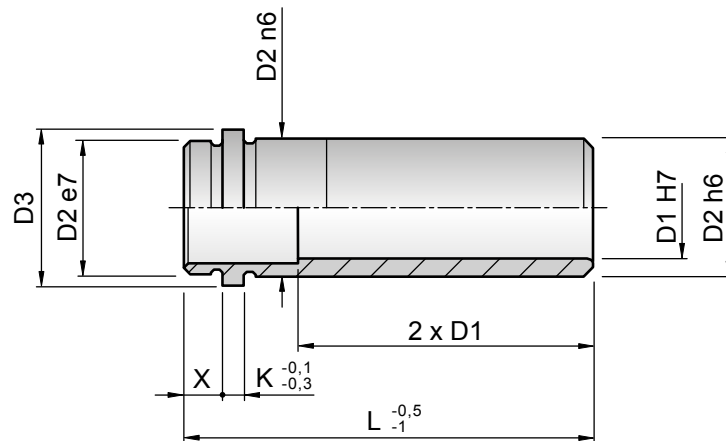
B1S

GUIDE BUSH WITH CENTERING COLLAR

FÜHRUNGSBUCHSE MIT ZENTRIERANSATZ | BUSSOLA SPALLATA



Material: 1.7131 Hardness: 61÷63 HRC Execution: inner and outer diameter fine ground	STOCK	 HOW TO ORDER B1S * D1 * L (B1S1626) B1S* D1 * D2 * L (only for D1 20-25)
---	-------	---



D1	D2	D3	K	X	L										
					26	36	46	56	66	76	86	96	106	126	
16	22	26	5	10	•	•	•	•	•	•	•	•	•		
20	28	32	6		•	•	•	•	•	•	•	•	•	•	
	30	34			•	•	•	•	•	•	•	•	•		
25	34	38	7			•	•	•	•	•	•	•	•		
	36	40				•	•	•	•	•	•	•	•		
32	40	45				•	•	•	•	•	•	•	•	•	
40	48	52	8					•	•	•	•	•	•	•	•

BC

CENTRING SLEEVE

ZENTRIERHÜLSE | BUSSOLA DI CENTRAGGIO



Material: 1.7131

Hardness: 61÷63 HRC

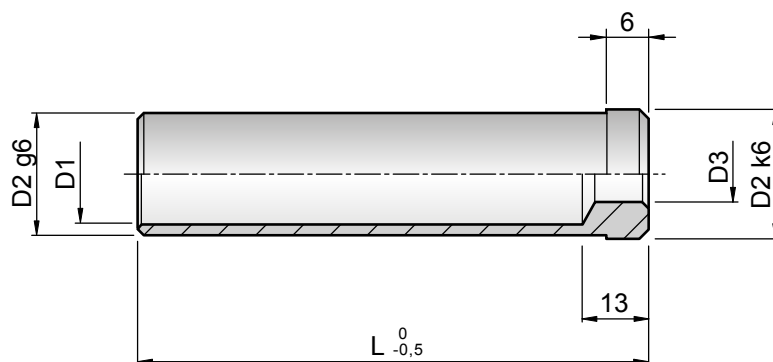
Execution: outer diameter fine ground

STOCK



HOW TO ORDER

BC * D2 * L (BC2240)



D2	D1	D3	L						
			40	60	80	100	120	140	160
22	17	12	•	•	•	•	•	•	•
28	21	15		•	•	•	•	•	•
30	25			•	•	•	•	•	•
34	26	19		•	•	•	•	•	•
36				•	•	•	•	•	•
40	33	25		•	•	•	•	•	•

CCX

LOCATING UNIT

ROUND ZENTRIERFÜHRUNG | CENTRAGGI CONICI



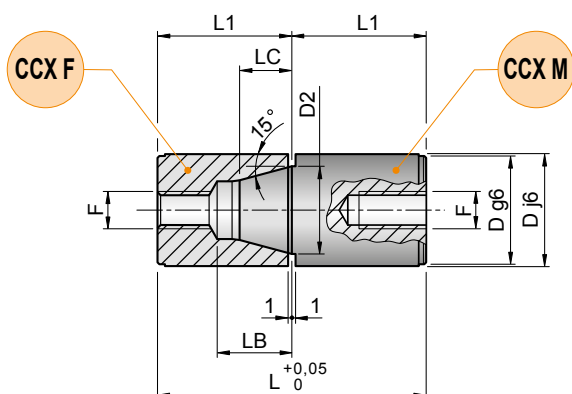
Material: 1.7131
Hardness: 61÷63 HRC
Execution: fine ground

STOCK



HOW TO ORDER

CCX * D (CCX16) only male CCX * D * "M" (CCX16M)
only female CCX * D * "F" (CCX16F)



D	L1	LC	LB	D2	F	L			
						50	64	80	100
16	25	7	13	12	6 MA	•			
20	32	9	17	14	8 MA		•		
25		11	18	18			•		
32	40	14	24	24	10 MA			•	
40	50	19	27	30					•

C05H

LOCATING UNIT

ROUND ZENTRIERFÜHRUNG | CENTRAGGI CONICI



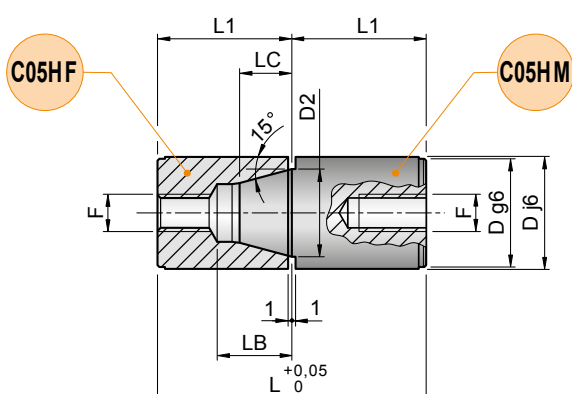
Material: 1.7131
Hardness: 61÷63 HRC
Execution: fine ground

STOCK



HOW TO ORDER

C05H * D * L (C05H1634) only male C05H * D * L * "M" (C05H1634M)
only female C05H * D * L * "F" (C05H1634F)



D	D2	L1	LC	LB	F	L			
						34	54	72	92
16	11	17	7	11	5 MA	•			
20	15	27	11	15	8 MA		•		
25 - 26	20		10	16			•		
30 - 32	25	36	14	22	10 MA			•	
40 - 42	34	46	19	27					•

AT

BUFFER PLATE FOR EJECTOR SET

ANSCHLAGSCHEIBE STÜTZSCHEIBE | APPOGGI TAVOLINO

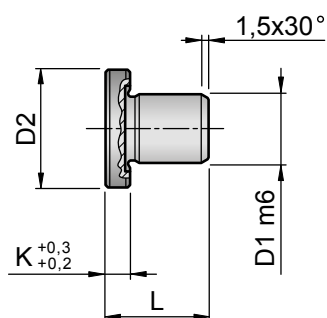


Material: 1.7131
 Hardness: 61÷63 HRC
 Execution: fine ground

STOCK



HOW TO ORDER
 AT * D1 (AT8)



D1	D2	K	L
8	18	5	21
14	24		

ATF

SEATING WASHERS FOR EJECTOR SET

ANSCHLAGSCHEIBE | APPOGGI TAVOLINO

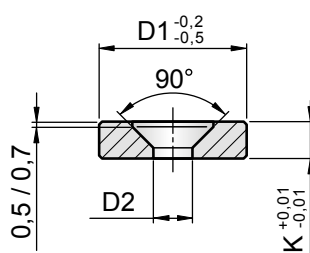


Material: 1.7131
 Hardness: 61÷63 HRC
 Execution: fine ground

STOCK



HOW TO ORDER
 ATF * D1 (ATF20)

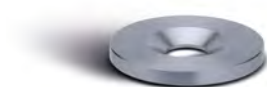


D1	D2	K
20	5,3	5

AC

LOCATING RING

ZENTRIERFLANSCH | ANELLO DI CENTRAGGIO

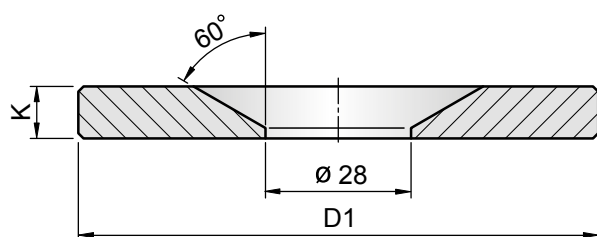


Material: 1.7131
Hardness: -
Execution: -

STOCK



HOW TO ORDER
AC * D1 (AC60)



D1	K
60	10
70	
80	
90	
100	
125	
150	
175	

VCOL

SHOULDER SCREW

SCHULTERSCHRAUBE | VITE A COLLETTA

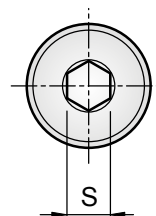
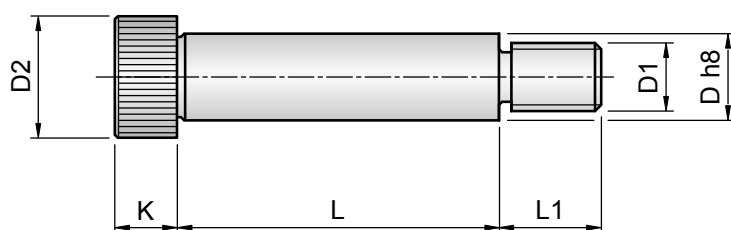


Material: steel 12.9
 Hardness: 38 ÷ 44 HRC
 Execution: fine ground

STOCK



HOW TO ORDER
 VCOL * D * L (VCOL610)



D	D1	D2	K	L1	S	L																	
						10	12	16	20	25	30	35	40	45	50	55	60	65	70	80	90	100	120
6	M5X0,8	10	4,5	9,5	3	•	•	•	•	•	•	•	•	•									
8	M6X1	13	5,5	11	4	•	•	•	•	•	•	•	•	•	•	•	•	•	•				
10	M8X1,25	16	7	13	5			•	•	•	•	•	•	•	•	•	•	•	•		•		
12	M10X1,5	18	9	16	6			•	•	•	•	•	•	•	•	•	•	•	•	•	•		
16	M12X1,75	24	11	18	8					•	•	•	•	•	•	•	•	•	•	•	•	•	•
20	M16X2	30	14	22	10							•		•	•	•		•	•	•	•	•	•
24	M20X2,5	36	16	27	12									•		•		•	•	•	•	•	•

BARRAT

INDUCTION HARDENED GROUND SHAFT

INDUKTIONSGEHÄRTETE WELLE | **BARRA** RETTIFICATA E TEMPRATA INDUZIONE



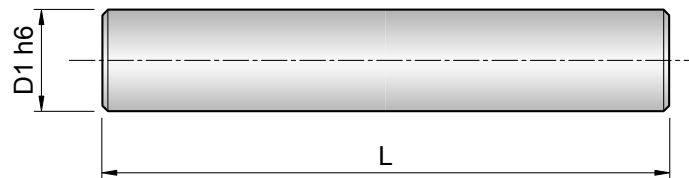
Material: 1.1213
Hardness: 60÷64 HRC
Execution: fine ground

STOCK



HOW TO ORDER

BARRAT * D1 * L (BARRAT61000)



D1	L
6	1000
8	
10	
12	
14	
16	
18	
20	
25	
30	
32	
40	
50	
60	

Outside diameters (shafts): Dimensions in $\mu\text{m} = 0,001\text{mm}$

Range in mm	TOLERANCE CLASS																			
	d8	e7	f6	g6	h3	h4	h5	h6	h8	js4	js6	j6	k5	k6	m5	m6	n6	p6	r6	s6
over 0	-20	-14	-6	-2	0	0	0	0	0	+1,5	+3	+4	+4	+6	+6	+8	+10	+12	+16	+20
to 3	-34	-24	-12	-8	-2	-3	-4	-6	-14	-1,5	-3	-2	0	0	+2	+2	+4	+6	+10	+14
over 3	-30	-20	-10	-4	0	0	0	0	0	+2	+4	+6	+6	+9	+9	+12	+16	+20	+23	+27
to 6	-48	-32	-18	-12	-2,5	-4	-5	-8	-18	-2	-4	-2	+1	+1	+4	+4	+8	+12	+15	+19
over 6	-40	-25	-13	-5	0	0	0	0	0	+2	+4,5	+7	+7	+10	+12	+15	+19	+24	+28	+32
to 10	-62	-40	-22	-14	-2,5	-4	-6	-9	-22	-2	-4,5	-2	+1	+1	+6	+6	+10	+15	+19	+23
over 10	-50	-32	-16	-6	0	0	0	0	0	+2,5	+5,5	+8	+9	+12	+15	+18	+23	+29	+34	+39
to 18	-77	-50	-27	-17	-3	-5	-8	-11	-27	-2,5	-5,5	-3	+1	+1	+7	+7	+12	+18	+23	+28
over 18	-65	-40	-20	-7	0	0	0	0	0	+3	+6,5	+9	+11	+15	+17	+21	+28	+35	+41	+48
to 30	-98	-61	-33	-20	-4	-6	-9	-13	-33	-3	-6,5	-4	+2	+2	+8	+8	+15	+22	+28	+35
over 30	-80	-50	-25	-9	0	0	0	0	0	+3,5	+8	+11	+13	+18	+20	+25	+33	+42	+50	+59
to 50	-119	-75	-41	-25	-4	-7	-11	-16	-39	-3,5	-8	-5	+2	+2	+9	+9	+17	+26	+34	+43
over 50	-100	-60	-30	-10	0	0	0	0	0	+4	+9,5	+12	+15	+21	+24	+30	+39	+51	+60	+72
to 65																			+41	+53
over 65	-146	-90	-49	-29	-5	-8	-13	-19	-46	-4	-9,5	-7	+2	+2	+11	+11	+20	+32	+62	+78
to 80																			+43	+59
over 80	-120	-72	-36	-12	0	0	0	0	0	+5	+11	+13	+18	+25	+28	+35	+45	+59	+73	+93
to 100																			+51	+71
over 100	-174	-107	-58	-34	-6	-10	-15	-22	-54	-5	-11	-9	+3	+3	+13	+13	+23	+37	+76	+101
to 120																			+54	+79
over 120	145	-85	-43	-14	0	0	0	0	0	+6	+12,5	+14	+21	+28	+33	+40	+52	+63	+88	+117
to 140																			+63	+92
over 140	-208	-125	-68	-39	-8	-12	-18	-25	-63	-6	-12,5	-11	+3	+3	+15	+15	+27	+48	+90	+125
to 160																			+65	+100

Inside diameters (bores): Dimensions in $\mu\text{m} = 0,001\text{mm}$

Range in mm	TOLERANCE CLASS																	
	E8	F7	G5	H4	H5	H6	H7	H8	H9	H10	H11	JS5	J7	K6	K7	M6	M7	P6
over 0	+28	+16	+6	+3	+4	+6	+10	+14	+25	+40	+60	+2	+4	0	0	-2	-2	-6
to 3	+14	+6	+2	0	0	0	0	0	0	0	0	-2	-6	-6	-10	-8	-12	-12
over 3	+38	+22	+9	+4	+5	+8	+12	+18	+30	+48	+75	+2,5	+6	+2	+3	-1	0	-9
to 6	+20	+10	+4	0	0	0	0	0	0	0	0	-2,5	-6	-6	-9	-9	-12	-17
over 6	+47	+28	+11	+4	+6	+9	+15	+22	+36	+58	+90	+3	+8	+2	+5	-3	0	-12
to 10	+25	+13	+5	0	0	0	0	0	0	0	0	-3	-7	-7	-10	-12	-15	-21
over 10	+59	+34	+14	+5	+8	+11	+18	+27	+43	+70	+110	+4	+10	+2	+6	-4	0	-15
to 18	+32	+16	+6	0	0	0	0	0	0	0	0	-4	-8	-9	-12	-15	-18	-26
over 18	+73	+41	+16	+6	+9	+13	+21	+33	+52	+84	+130	+4,5	+12	+2	+6	-4	0	-18
to 30	+40	+20	+7	0	0	0	0	0	0	0	0	-4,5	-9	-11	-15	-17	-21	-31
over 30	+89	+50	+20	+7	+11	+16	+25	+39	+62	+100	+160	+5,5	+14	+3	+7	-4	0	-21
to 50	+50	+25	+9	0	0	0	0	0	0	0	0	-5,5	-11	-13	-18	-20	-25	-37
over 50	+106	+60	+23	+8	+13	+19	+30	+46	+74	+120	+190	+6,5	+18	+4	+9	-5	0	-26
to 80	+60	+30	+10	0	0	0	0	0	0	0	0	-6,5	-12	-15	-21	-24	-30	-45
over 80	+126	+71	+27	+10	+15	+22	+35	+54	+87	+140	+220	+7,5	+22	+4	+10	-6	0	-30
to 120	+72	+36	+12	0	0	0	0	0	0	0	0	-7,5	-13	-18	-25	-28	-35	-52
over 120	+148	+83	+32	+12	+18	+25	+40	+63	+100	+160	+250	+9	+26	+4	+12	-8	0	-36
to 160	+85	+43	+14	0	0	0	0	0	0	0	0	-9	-14	-21	-28	-33	-40	-61

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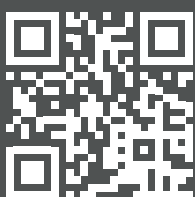
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