3. Caratteristiche boccole sinterizzate BNZ e FE

Il programma **ISB®** prevede un'ampia gamma di boccole realizzate in materiale sinterizzato (bronzo, ferro e bronzo grafite compatto), disponibili in formato cilindrico e flangiato.
Grazie alla particolare struttura porosa della superficie, dopo la prima oliatura da parte del costruttore, che permette il rilascio graduale del lubrificante, le boccole possono essere utilizzate senza manutenzione per lunghi periodi.
Le boccole in ferro rispetto a quelle in bronzo, sono adatte per sopportare carichi più elevati in presenza di un numero di giri inferiore. Le boccole in bronzo sono invece adatte per ambienti molto polverosi, dove non è possibile la presenza d'olio; sono indicate anche per applicazioni a contatto d'acqua o con liquidi compatibili con il bronzo.
Le boccole sinterizzate trovano il loro maggior impiego nelle macchine elettriche, negli utensili elettrici, macchine tessili, nell'industria chimica, macchine per ufficio e nell'industria automobilistica.

3. *BNZ and FE sintered bushings characteristics*

ISB® *provides an ample range of bushings realized in sintered materials (bronze, iron, compact bronze graphite), available both in cylindrical and flanged formats. Thanks to the particular porous structure of the surface, after the first oiling done by the constructor, which permits the gradual release of the lubricant, the bushings can be used without maintenance for long periods.*
The iron bushings compared to those in bronze, can bear heavier loads with lower rotational speed. The bushings in bronze are on the other hand adapt for very dusty ambients where oil can not be used; they are indicated even for applications in contact with water or other bronze compatible liquids.
The sintered bushings are mainly used in electric machines, in electric tools, textile machines, in the chemical industry, office machines and in the automobile industry.

3.1 Materiale

Le boccole in bronzo sinterizzato ISB possono essere realizzate in SINT A51, un materiale composto da una matrice in bronzo metallico sinterizzato e grafite, presente in circa 1% del peso. Il materiale di base di queste boccole, poroso ed impregnato di olio minerale, migliora le caratteristiche di antifrizione, specialmente in condizioni di **scarsa lubrificazione**.

Si riportano di seguito le caratteristiche e la composizione chimica:
- Capacità di carico: 35 N/mm2
- Limite Pv: 1.6 N/mm^2 x m/s
- Velocità limite: 5 m/s
- Temperatura limite: da -20°C / +120 °C
- Contenuto d'olio: min. 18% vol.
- Coefficiente d'attrito a secco μ: 0.10 – 0.18
- Coefficiente d'attrito ingrassata μ: 0.05 – 0.10

3.1 *Material*

ISB sintered bronze bushings may be made of SINT A51, a material composed of a matrix of sintered metallic bronze and graphite, present in about 1% of the weight. The basic material of these bushings, porous and impregnated with mineral oil, improves the anti-friction characteristics especially in conditions of ***poor lubrication****.*

The characteristics and chemical composition are reported below:
- *Load capacity: 35 N/mm2*
- *Pv limit: 1.6 N/mm^2 x m/s*
- *Speed Limit: 5 m/s*
- *Limit temperature: from -20°C / +120 °C*
- *Oil content: min. 18% vol.*
- *Dry friction coefficient μ: 0.10 – 0.18*
- *Greased friction coefficient μ: 0.05 – 0.10*

SINT A51				
Cu %	**Sn %**	**Zn %**	**C %**	**Pb %**
Base / *Balance*	**9.0-11.0**	**≤ 2.0**	**0.5-3.0**	**-**

Composizione	**SINT A51**	***Composition***	***SINT A51***
Capacità di carico	**35N/mm^2**	***Load capacity***	***35N/mm^2***
Temperatura limite	**-20 °C ~ +120 °C**	***Temperature limit***	***-20 °C ~ +120 °C***
Coefficiente di attrito a secco	**μ: 0,10~0,18**	***Friction coefficient dry***	***μ: 0,10~0,18***

Disponibili anche in: ***Also available in:***

Composizione	**FE**	***Composition***	***FE***
Capacità di carico	**45N/mm^2**	***Load capacity***	***45N/mm^2***
Temperatura limite	**-80 °C ~ +160 °C**	***Temperature limit***	***-80 °C ~ +160 °C***
Coefficiente di attrito a secco	**μ: 0,15~0,20**	***Friction coefficient dry***	***μ: 0,15~0,20***

Tolleranze delle boccole BNZ/FE e BNZF/FEF

BNZ/FE and BNZF/FEF Bushings tolerances

BNZ/FE

Diametro interno *Inner diameter* d	Tolleranze diametro interno *Inner diameter tolerances* d	Diametro esterno *Outer diameter* D	Tolleranze diametro esterno *Outer diameter tolerances* D
≤ 3	+ 0,012 + 0,002	3 < ≤ 6	+ 0,031 + 0,019
3 < ≤ 6	+ 0,016 + 0,004	6 < ≤ 10	+ 0,038 + 0,023
6 < ≤ 10	+ 0,020 + 0,005	10 < ≤ 18	+ 0,046 + 0,028
10 < ≤ 18	+ 0,024 + 0,006	18 < ≤ 30	+ 0,056 + 0,035
18 < ≤ 30	+ 0,028 + 0,007	30 < ≤ 50	+ 0,068 + 0,043
30 < ≤ 50	+ 0,034 + 0,009	50 < ≤ 65	+ 0,083 + 0,053
50 < ≤ 80	+ 0,040 + 0,010	65 < ≤ 80	+ 0,089 + 0,059
80 < ≤ 120	+ 0,047 + 0,012	80 < ≤ 100	+ 0,106 + 0,071
120 < ≤ 180	+ 0,054 + 0,014	100 < ≤ 120	+ 0,114 + 0,079
-	-	120 < ≤ 140	+ 0,132 + 0,092
-	-	140 < ≤ 160	+ 0,140 + 0,100

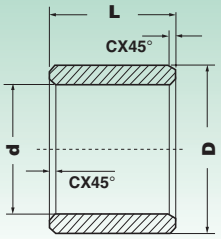
BNZF/FEF

Tolleranze spessore *Thickness tolerances*	Dimensioni smusso *Chamfer dimensions*		Dimensioni raggio (mm) *Radius dimension (mm)*		Tolleranze lunghezza, diametro flangia, spessore *Length, flange diameter, thickness tolerances*	
S_B	S_B	C_{max}	D	r_{max}	Dimensione *Dimension*	Tolleranza *Tolerance*
1 + 0,020 + 0,045	≤ 1	0,2	≤ 12	0,3	≤ 3	± 0,07
1 + 0,020 + 0,045	1 < ≤ 2	0,3	12 < ≤ 30	0,6	3 < ≤ 6	± 0,09
1,5 + 0,025 + 0,055	2 < ≤ 3	0,4	> 30	0,8	6 < ≤ 10	± 0,11
2 + 0,030 + 0,065	3 < ≤ 4	0,6	-	-	10 < ≤ 18	± 0,135
2,5 + 0,040 + 0,085	4 < ≤ 5	0,7	-	-	18 < ≤ 30	± 0,165
2,5 + 0,040 + 0,085	> 5	0,8	-	-	30 < ≤ 50	± 0,195
2,5 + 0,040 + 0,085	-	-	-	-	50 < ≤ 80	± 0,230
2,5 + 0,040 + 0,085	-	-	-	-	80 < ≤ 120	± 0,270

Le tolleranze delle boccole BNZ, BNZF, F2, FEF rispettano la norma ISO 2795:1991

Tolerance values of bushings BNZ, BNZF, FE and FEF *comply with standard ISO 2795:1991*

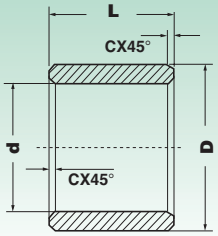
Tolleranze di montaggio raccomandate:		*Recommended mounting tolerances:*	
Albero:	**Foro:**	***Shaft:***	***Bore:***
f7 - f8	H 7	*f7 - f8*	*H 7*



Dimensioni (mm) *Dimensions (mm)*			
$d_{(G7)}$	$D_{(s7)}$	$L_{(js13)}$	C_{max}
2	5	$2^{\pm0,070}$	0,3
		$3^{\pm0,070}$	
		$4^{\pm0,090}$	
		$5^{\pm0,090}$	
		$6^{\pm0,090}$	
2,5	6	$10^{\pm0,110}$	0,3
3	6	$3^{\pm0,070}$	0,3
		$4^{\pm0,090}$	
		$5^{\pm0,090}$	
		$6^{\pm0,090}$	
		$7^{\pm0,110}$	
		$8^{\pm0,110}$	
		$10^{\pm0,110}$	
	8	$6^{\pm0,090}$	0,4
4	6	$5^{\pm0,090}$	0,2
		$7,5^{\pm0,090}$	
		$8^{\pm0,110}$	
		$8,5^{\pm0,110}$	
		$10^{\pm0,110}$	
	6,5	$4^{\pm0,090}$	0,3
	7	$3^{\pm0,070}$	0,3
		$4^{\pm0,090}$	
		$6^{\pm0,090}$	
		$7^{\pm0,110}$	
		$8^{\pm0,110}$	
		$12^{\pm0,135}$	
	8	$4^{\pm0,090}$	0,3
		$5^{\pm0,090}$	
		$6^{\pm0,090}$	
		$8^{\pm0,110}$	
		$10^{\pm0,110}$	
		$12^{\pm0,135}$	
		$15^{\pm0.135}$	
		$16^{\pm0.135}$	
	10	$10^{\pm0,110}$	0,4
5	8	$4^{\pm0,090}$	0,3
		$5^{\pm0,090}$	
		$8^{\pm0,110}$	
		$10^{\pm0,110}$	
		$12^{\pm0,135}$	
		$15^{\pm0,135}$	
		$16^{\pm0,135}$	
	9	$4^{\pm0,090}$	0,3
		$5^{\pm0,090}$	
		$6,5^{\pm0,090}$	
		$8^{\pm0,110}$	
		$9^{\pm0,110}$	
		$10^{\pm0,110}$	
		$11^{\pm0,110}$	
		$13^{\pm0,135}$	

Dimensioni (mm) *Dimensions (mm)*			
$d_{(G7)}$	$D_{(s7)}$	$L_{(js13)}$	C_{max}
5	10	$5^{\pm0,090}$	0,4
		$8^{\pm0,110}$	
		$10^{\pm0,110}$	
		$12^{\pm0,135}$	
		$14^{\pm0,135}$	
		$15^{\pm0,135}$	
6	8	$5^{\pm0,090}$	0,2
		$8^{\pm0,110}$	
		$9,5^{\pm0,110}$	
		$10^{\pm0,110}$	
	8,5	$8^{\pm0,110}$	0,3
		$10^{\pm0,110}$	
	9	$4^{\pm0,090}$	0,3
		$6^{\pm0,090}$	
		$8^{\pm0,110}$	
		$9^{\pm0,110}$	
		$10^{\pm0,110}$	
		$12^{\pm0,135}$	
		$15^{\pm0,135}$	
		$16^{\pm0,135}$	
	10	$4^{\pm0,090}$	0,3
		$5^{\pm0,090}$	
		$6^{\pm0,090}$	
		$8^{\pm0,110}$	
		$10^{\pm0,110}$	
		$11^{\pm0,110}$	
		$12^{\pm0,135}$	
		$14^{\pm0,135}$	
		$15^{\pm0,135}$	
		$16^{\pm0,135}$	
	12	$5^{\pm0,090}$	0,4
		$6^{\pm0,090}$	
		$8^{\pm0,110}$	
		$10^{\pm0,110}$	
		$12^{\pm0,135}$	
		$14^{\pm0,135}$	
		$15^{\pm0,135}$	
		$16^{\pm0,135}$	
		$20^{\pm0,165}$	
	13	$15^{\pm0,135}$	0,6
	14	$14^{\pm0,135}$	0,6
7	10	$5^{\pm0,090}$	0,3
		$6^{\pm0,090}$	
		$8^{\pm0,110}$	
		$10^{\pm0,110}$	
		$12^{\pm0,135}$	
	11	$6^{\pm0,090}$	0,3
		$8^{\pm0,110}$	
		$10^{\pm0,110}$	
		$13^{\pm0,135}$	
	12	$8,5^{\pm0,110}$	0,4

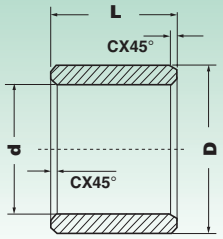
Dimensioni (mm) *Dimensions (mm)*			
$d_{(G7)}$	$D_{(s7)}$	$L_{(js13)}$	C_{max}
7	13	$13^{\pm0,135}$	0,4
		$22^{\pm0,165}$	
	14	$10^{\pm0,110}$	0,6
8	10	$5^{\pm0,090}$	0,2
		$6^{\pm0,090}$	
		$8^{\pm0,110}$	
		$10^{\pm0,110}$	
		$12^{\pm0,135}$	
		$14^{\pm0,135}$	
		$15^{\pm0,135}$	
	11	$6^{\pm0,090}$	0,3
		$8^{\pm0,110}$	
		$12^{\pm0,135}$	
		$16^{\pm0,135}$	
		$20^{\pm0,165}$	
	12	$5^{\pm0,090}$	0,3
		$6^{\pm0,090}$	
		$8^{\pm0,110}$	
		$10^{\pm0,110}$	
		$12^{\pm0,135}$	
		$12,5^{\pm0,135}$	
		$14^{\pm0,135}$	
		$15^{\pm0,135}$	
		$16^{\pm0,135}$	
		$20^{\pm0,165}$	
	14	$8^{\pm0,110}$	0,4
		$10^{\pm0,110}$	
		$12^{\pm0,135}$	
		$14^{\pm0,135}$	
		$15^{\pm0,135}$	
		$16^{\pm0,135}$	
		$20^{\pm0,165}$	
	15	$6^{\pm0,090}$	0,6
		$12^{\pm0,135}$	
	16	$10^{\pm0,110}$	0,6
		$18^{\pm0,135}$	
		$25^{\pm0,165}$	
8,15	12	$12^{\pm0,135}$	0,3
9	12	$6^{\pm0,090}$	0,3
		$10^{\pm0,110}$	
		$14^{\pm0,135}$	
		$16^{\pm0,135}$	
	13	$13^{\pm0,135}$	0,3
	14	$5^{\pm0,090}$	0,4
		$6^{\pm0,090}$	
		$8^{\pm0,110}$	
		$10^{\pm0,110}$	
		$12^{\pm0,135}$	
		$14^{\pm0,135}$	
		$15^{\pm0,135}$	



Dimensioni (mm) *Dimensions (mm)*			
$d_{(G7)}$	$D_{(s7)}$	$L_{(js13)}$	C_{max}
9	14	$16^{\pm0,135}$	0,4
		$20^{\pm0,165}$	
10	12	$10^{\pm0,110}$	0,2
		$12^{\pm0,135}$	
		$14^{\pm0,135}$	
		$18^{\pm0,135}$	
	13	$10^{\pm0,110}$	0,3
		$12^{\pm0,135}$	
		$15^{\pm0,135}$	
		$16^{\pm0,135}$	
		$18^{\pm0,135}$	
		$20^{\pm0,165}$	
		$25^{\pm0,165}$	
	14	$5^{\pm0,090}$	0,3
		$8^{\pm0,110}$	
		$10^{\pm0,110}$	
		$12^{\pm0,135}$	
		$14^{\pm0,135}$	
		$15^{\pm0,135}$	
		$16^{\pm0,135}$	
		$18^{\pm0,135}$	
10	14	$20^{\pm0,165}$	0,3
		$25^{\pm0,165}$	
	15	$10^{\pm0,110}$	0,4
		$12^{\pm0,135}$	
		$15^{\pm0,135}$	
		$16^{\pm0,135}$	
		$20^{\pm0,165}$	
		$25^{\pm0,165}$	
	16	$8^{\pm0,110}$	0,4
		$10^{\pm0,110}$	
		$12^{\pm0,135}$	
		$15^{\pm0,135}$	
		$16^{\pm0,135}$	
		$20^{\pm0,165}$	
		$25^{\pm0,165}$	
		$32^{\pm0,195}$	
	18	$10^{\pm0,110}$	0,6
		$12^{\pm0,135}$	
		$15^{\pm0,135}$	
		$20^{\pm0,165}$	
		$25^{\pm0,165}$	
11	16	$20^{\pm0,165}$	0,4
12	14	$10^{\pm0,110}$	0,2
		$12^{\pm0,135}$	
		$15^{\pm0,135}$	
		$16^{\pm0,135}$	
		$20^{\pm0,165}$	
	15	$10^{\pm0,110}$	0,3
		$12^{\pm0,135}$	

Dimensioni (mm) *Dimensions (mm)*			
$d_{(G7)}$	$D_{(s7)}$	$L_{(js13)}$	C_{max}
12	15	$12,5^{\pm0,135}$	0,3
		$12,8^{\pm0,135}$	
		$13^{\pm0,135}$	
		$15^{\pm0,135}$	
		$16^{\pm0,135}$	
		$18^{\pm0,135}$	
		$20^{\pm0,165}$	
		$25^{\pm0,165}$	
	16	$7^{\pm0,110}$	0,3
		$8^{\pm0,110}$	
		$10^{\pm0,110}$	
		$11^{\pm0,110}$	
		$12^{\pm0,135}$	
		$15^{\pm0,135}$	
		$16^{\pm0,135}$	
		$18^{\pm0,135}$	
		$20^{\pm0,165}$	
		$23^{\pm0,165}$	
		$25^{\pm0,165}$	
		$30^{\pm0,165}$	
		$36,5^{\pm0,165}$	
	17	$12^{\pm0,135}$	0,4
		$15^{\pm0,135}$	
		$16^{\pm0,135}$	
		$17^{\pm0,135}$	
		$20^{\pm0,165}$	
		$21^{\pm0,165}$	
		$24^{\pm0,165}$	
		$25^{\pm0,165}$	
	18	$8^{\pm0,110}$	0,4
		$10^{\pm0,110}$	
		$12^{\pm0,135}$	
		$15^{\pm0,135}$	
		$16^{\pm0,135}$	
		$18^{\pm0,135}$	
		$20^{\pm0,165}$	
		$25^{\pm0,165}$	
		$29,5^{\pm0,165}$	
		$30^{\pm0,165}$	
	20	$12^{\pm0,135}$	0,6
		$15^{\pm0,135}$	
		$16^{\pm0,135}$	
		$20^{\pm0,165}$	
		$25^{\pm0,165}$	
		$30^{\pm0,165}$	
12,1	18	$10^{\pm0,110}$	0,4
13	16	$10^{\pm0,135}$	0,3
14	16	$15^{\pm0,135}$	0,2
	18	$10^{\pm0,110}$	0,3
		$12^{\pm0,135}$	

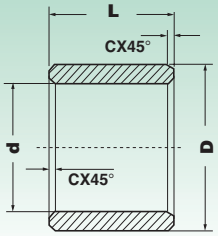
Dimensioni (mm) *Dimensions (mm)*			
$d_{(G7)}$	$D_{(s7)}$	$L_{(js13)}$	C_{max}
14	18	$13^{\pm0,135}$	0,3
		$14^{\pm0,135}$	
		$15^{\pm0,135}$	
		$18^{\pm0,135}$	
		$20^{\pm0,165}$	
		$22^{\pm0,165}$	
		$25^{\pm0,165}$	
		$26^{\pm0,165}$	
		$28^{\pm0,165}$	
		$30^{\pm0,165}$	
	20	$10^{\pm0,110}$	0,4
		$12^{\pm0,135}$	
		$14^{\pm0,135}$	
		$15^{\pm0,135}$	
		$16^{\pm0,135}$	
		$18^{\pm0,135}$	
		$20^{\pm0,165}$	
		$22^{\pm0,165}$	
		$25^{\pm0,165}$	
		$28^{\pm0,165}$	
		$30^{\pm0,165}$	
	22	$15^{\pm0,135}$	0,6
		$20^{\pm0,165}$	
		$25^{\pm0,165}$	
		$30^{\pm0,165}$	
15	18	$12^{\pm0,135}$	0,3
		$15^{\pm0,135}$	
		$17^{\pm0,135}$	
		$19^{\pm0,135}$	
		$20^{\pm0,165}$	
	18	$25^{\pm0,165}$	0,3
		$27^{\pm0,165}$	
		$30^{\pm0,165}$	
		$35^{\pm0,195}$	
	19	$10^{\pm0,110}$	0,3
		$15^{\pm0,135}$	
		$16^{\pm0,135}$	
		$20^{\pm0,165}$	
		$25^{\pm0,165}$	
		$30^{\pm0,165}$	
		$32^{\pm0,195}$	
	20	$10^{\pm0,110}$	0,4
		$12^{\pm0,135}$	
		$15^{\pm0,135}$	
		$16^{\pm0,135}$	
		$20^{\pm0,165}$	
		$24^{\pm0,165}$	
		$25^{\pm0,165}$	
		$28^{\pm0,165}$	
		$30^{\pm0,165}$	
		$40^{\pm0,195}$	



Dimensioni (mm) *Dimensions (mm)*			
$d_{(G7)}$	$D_{(s7)}$	$L_{(js13)}$	C_{max}
15	21	$15^{\pm0,135}$	0,4
		$16^{\pm0,135}$	
		$20^{\pm0,165}$	
		$21^{\pm0,165}$	
		$25^{\pm0,165}$	
		$30^{\pm0,165}$	
		$32^{\pm0,195}$	
	22	$15^{\pm0,135}$	0,6
		$16^{\pm0,135}$	
		$20^{\pm0,165}$	
		$22^{\pm0,165}$	
		$25^{\pm0,165}$	
		$30^{\pm0,165}$	
		$40^{\pm0,195}$	
	24	$30^{\pm0,165}$	0,7
	25	$18^{\pm0,135}$	0,7
16	18	$10^{\pm0,110}$	0,2
		$12^{\pm0,135}$	
		$20^{\pm0,165}$	
		$22^{\pm0,165}$	
		$30^{\pm0,165}$	
	19	$5,5^{\pm0,090}$	0,3
		$12^{\pm0,135}$	
		$14,2^{\pm0,135}$	
		$16^{\pm0,135}$	
		$18^{\pm0,135}$	
		$19^{\pm0,135}$	
		$20^{\pm0,165}$	
		$22^{\pm0,165}$	
		$25^{\pm0,165}$	
	20	$8^{\pm0,110}$	0,3
		$12^{\pm0,135}$	
		$15^{\pm0,135}$	
		$16^{\pm0,135}$	
		$18^{\pm0,135}$	
		$20^{\pm0,165}$	
		$25^{\pm0,165}$	
		$28^{\pm0,165}$	
		$30^{\pm0,165}$	
		$32^{\pm0,195}$	
	22	$10^{\pm0,110}$	0,4
		$12^{\pm0,135}$	
		$15^{\pm0,135}$	
		$16^{\pm0,135}$	
		$20^{\pm0,165}$	
		$22^{\pm0,165}$	
		$25^{\pm0,165}$	
		$30^{\pm0,165}$	
		$32^{\pm0,195}$	
		$35^{\pm0,195}$	
	24	$20^{\pm0,165}$	0,6

Dimensioni (mm) *Dimensions (mm)*			
$d_{(G7)}$	$D_{(s7)}$	$L_{(js13)}$	C_{max}
17	21	$22^{\pm0,165}$	0,3
		$32^{\pm0,195}$	
	22	$12^{\pm0,135}$	0,4
		$13^{\pm0,135}$	
		$15^{\pm0,135}$	
		$17^{\pm0,135}$	
		$20^{\pm0,165}$	
		$22^{\pm0,165}$	
		$23^{\pm0,165}$	
		$25^{\pm0,165}$	
		$30^{\pm0,165}$	
		$35^{\pm0,195}$	
	23	$17^{\pm0,135}$	0,4
		$23^{\pm0,165}$	
	25	$17^{\pm0,135}$	0,6
		$20^{\pm0,165}$	
		$25^{\pm0,165}$	
		$30^{\pm0,165}$	
18	22	$12^{\pm0,135}$	0,3
		$15^{\pm0,135}$	
		$16^{\pm0,135}$	
		$18^{\pm0,135}$	
		$20^{\pm0,165}$	
		$22^{\pm0,165}$	
		$22,5^{\pm0,165}$	
		$25^{\pm0,165}$	
		$28^{\pm0,165}$	
		$30^{\pm0,165}$	
		$36^{\pm0,195}$	
		$40^{\pm0,195}$	
	23	$18^{\pm0,135}$	0,4
		$23^{\pm0,165}$	
		$24,7^{\pm0,165}$	
		$28^{\pm0,165}$	
	24	$16^{\pm0,135}$	0,4
		$18^{\pm0,135}$	
		$20^{\pm0,165}$	
		$22^{\pm0,165}$	
		$24^{\pm0,165}$	
		$25^{\pm0,165}$	
		$28^{\pm0,165}$	
		$30^{\pm0,165}$	
		$35^{\pm0,195}$	
		$36^{\pm0,195}$	
		$40^{\pm0,195}$	
	25	$16^{\pm0,135}$	0,6
		$18^{\pm0,135}$	
		$20^{\pm0,165}$	
		$22^{\pm0,165}$	
		$25^{\pm0,165}$	
		$28^{\pm0,165}$	

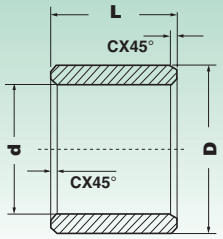
Dimensioni (mm) *Dimensions (mm)*			
$d_{(G7)}$	$D_{(s7)}$	$L_{(js13)}$	C_{max}
18	25	$30^{\pm0,165}$	0,6
		$36^{\pm0,195}$	
		$40^{\pm0,195}$	
19	25	$19^{\pm0,135}$	0,4
		$25^{\pm0,165}$	
20	22	$10^{\pm0,110}$	0,2
		$20^{\pm0,165}$	
	23	$7^{\pm0,090}$	0,3
		$24^{\pm0,165}$	
	24	$7^{\pm0,090}$	0,3
		$10^{\pm0,110}$	
		$12^{\pm0,135}$	
		$14^{\pm0,135}$	
		$16^{\pm0,135}$	
		$18^{\pm0,135}$	
		$20^{\pm0,165}$	
		$22^{\pm0,165}$	
		$24^{\pm0,165}$	
		$25^{\pm0,165}$	
		$27^{\pm0,165}$	
		$30^{\pm0,165}$	
		$32^{\pm0,195}$	
	25	$15^{\pm0,135}$	0,4
		$16^{\pm0,135}$	
		$20^{\pm0,165}$	
		$22^{\pm0,165}$	
		$25^{\pm0,165}$	
		$28^{\pm0,165}$	
		$30^{\pm0,165}$	
		$32^{\pm0,195}$	
		$34^{\pm0,195}$	
		$35^{\pm0,195}$	
		$40^{\pm0,195}$	
	26	$7^{\pm0,110}$	0,4
		$12^{\pm0,135}$	
		$15^{\pm0,135}$	
		$16^{\pm0,135}$	
		$20^{\pm0,165}$	
		$25^{\pm0,165}$	
		$26^{\pm0,165}$	
		$30^{\pm0,165}$	
		$32^{\pm0,195}$	
		$35^{\pm0,195}$	
		$40^{\pm0,195}$	
	27	$16^{\pm0,135}$	0,6
		$20^{\pm0,165}$	
		$25^{\pm0,165}$	
		$32^{\pm0,195}$	
	28	$16^{\pm0,135}$	0,6



Dimensioni (mm) *Dimensions (mm)*			
$d_{(G7)}$	$D_{(s7)}$	$L_{(js13)}$	C_{max}
20	28	$20^{\pm0,165}$	0,6
		$24^{\pm0,165}$	
		$25^{\pm0,165}$	
		$28^{\pm0,165}$	
		$30^{\pm0,165}$	
		$32^{\pm0,195}$	
		$35^{\pm0,195}$	
		$40^{\pm0,195}$	
		$50^{\pm0,195}$	
	30	$12^{\pm0,135}$	0,7
		$20^{\pm0,165}$	
		$25^{\pm0,165}$	
		$30^{\pm0,165}$	
		$35^{\pm0,195}$	
		$40^{\pm0,195}$	
	32	$30^{\pm0,165}$	0,8
21	24	$19,5^{\pm0,135}$	0,3
22	26	$20^{\pm0,165}$	0,3
		$22^{\pm0,165}$	
		$26^{\pm0,165}$	
		$30^{\pm0,165}$	
		$40^{\pm0,195}$	
	27	$15^{\pm0,135}$	0,4
		$18^{\pm0,135}$	
		$20^{\pm0,165}$	
		$22^{\pm0,165}$	
		$25^{\pm0,165}$	
		$28^{\pm0,165}$	
		$30^{\pm0,165}$	
		$35^{\pm0,195}$	
		$36^{\pm0,195}$	
		$40^{\pm0,195}$	
	28	$15^{\pm0,135}$	0,4
		$18^{\pm0,135}$	
		$20^{\pm0,165}$	
		$22^{\pm0,165}$	
		$25^{\pm0,165}$	
		$28^{\pm0,165}$	
		$30^{\pm0,165}$	
		$34^{\pm0,195}$	
		$35^{\pm0,195}$	
		$36^{\pm0,195}$	
		$40^{\pm0,195}$	
	29	$18^{\pm0,135}$	0,6
		$22^{\pm0,165}$	
		$28^{\pm0,165}$	
		$36^{\pm0,195}$	
	30	$35^{\pm0,195}$	0,6
		$40^{\pm0,195}$	

Dimensioni (mm) *Dimensions (mm)*			
$d_{(G7)}$	$D_{(s7)}$	$L_{(js13)}$	C_{max}
22	32	$20^{\pm0,165}$	0,7
		$22^{\pm0,165}$	
		$30^{\pm0,165}$	
		$32^{\pm0,195}$	
		$40^{\pm0,195}$	
		$45^{\pm0,195}$	
		$50^{\pm0,195}$	
24	28	$16^{\pm0,135}$	0,3
		$18^{\pm0,135}$	
		$20^{\pm0,165}$	
		$30^{\pm0,165}$	
	30	$24^{\pm0,165}$	0,4
		$30^{\pm0,165}$	
		$32^{\pm0,195}$	
		$40^{\pm0,195}$	
25	28	$20^{\pm0,165}$	0,3
		$36^{\pm0,195}$	
	30	$8^{\pm0,110}$	0,4
		$15^{\pm0,135}$	
		$16^{\pm0,135}$	
		$20^{\pm0,165}$	
		$25^{\pm0,165}$	
		$30^{\pm0,165}$	
		$32^{\pm0,195}$	
		$35^{\pm0,195}$	
		$40^{\pm0,195}$	
		$50^{\pm0,195}$	
	31	$17^{\pm0,135}$	0,4
	32	$20^{\pm0,165}$	0,6
		$25^{\pm0,165}$	
		$30^{\pm0,165}$	
		$32^{\pm0,195}$	
		$35^{\pm0,195}$	
		$40^{\pm0,195}$	
		$45^{\pm0,195}$	
	35	$15^{\pm0,135}$	0,7
		$20^{\pm0,165}$	
		$25^{\pm0,165}$	
		$30^{\pm0,165}$	
		$35^{\pm0,195}$	
		$40^{\pm0,195}$	
		$45^{\pm0,195}$	
		$50^{\pm0,195}$	
	36	$50^{\pm0,195}$	0,8
26	30	$40^{\pm0,195}$	0,3
	35	$45^{\pm0,195}$	0,7
28	32	$30^{\pm0,165}$	0,3
	33	$20^{\pm0,165}$	0,4
		$22^{\pm0,165}$	
		$28^{\pm0,165}$	

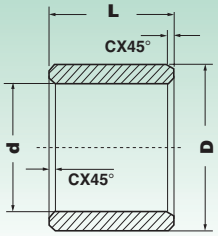
Dimensioni (mm) *Dimensions (mm)*			
$d_{(G7)}$	$D_{(s7)}$	$L_{(js13)}$	C_{max}
28	33	$30^{\pm0,165}$	0,4
		$33^{\pm0,195}$	
		$36^{\pm0,195}$	
		$40^{\pm0,195}$	
		$45^{\pm0,195}$	
	35	$15^{\pm0,135}$	0,6
		$25^{\pm0,165}$	
		$28^{\pm0,165}$	
		$30^{\pm0,165}$	
		$35^{\pm0,195}$	
		$40^{\pm0,195}$	
		$44^{\pm0,195}$	
		$45^{\pm0,195}$	
		$50^{\pm0,195}$	
	36	$20^{\pm0,165}$	0,6
		$22^{\pm0,165}$	
		$25^{\pm0,165}$	
		$28^{\pm0,165}$	
		$30^{\pm0,165}$	
		$35^{\pm0,195}$	
		$36^{\pm0,195}$	
		$40^{\pm0,195}$	
		$45^{\pm0,195}$	
		$50^{\pm0,195}$	
30	33	$25^{\pm0,165}$	0,3
		$45^{\pm0,195}$	
	34	$20^{\pm0,165}$	0,3
		$40^{\pm0,195}$	
	35	$10^{\pm0,110}$	0,4
		$15^{\pm0,135}$	
		$20^{\pm0,165}$	
		$25^{\pm0,165}$	
		$30^{\pm0,165}$	
		$35^{\pm0,195}$	
		$40^{\pm0,195}$	
		$45^{\pm0,195}$	
		$50^{\pm0,195}$	
	36	$10^{\pm0,110}$	0,4
		$30^{\pm0,165}$	
		$35^{\pm0,195}$	
		$40^{\pm0,195}$	
		$45^{\pm0,195}$	
		$50^{\pm0,195}$	
	38	$20^{\pm0,165}$	0,6
		$24^{\pm0,165}$	
		$25^{\pm0,165}$	
		$30^{\pm0,165}$	
		$35^{\pm0,195}$	
		$38^{\pm0,195}$	
		$40^{\pm0,195}$	
		$45^{\pm0,195}$	
		$50^{\pm0,195}$	



Dimensioni (mm) *Dimensions (mm)*			
$d_{(G7)}$	$D_{(s7)}$	$L_{(js13)}$	C_{max}
30	40	$10^{\pm 0,110}$	0,7
		$20^{\pm 0,165}$	
		$25^{\pm 0,165}$	
		$30^{\pm 0,165}$	
		$35^{\pm 0,195}$	
		$40^{\pm 0,195}$	
		$45^{\pm 0,195}$	
		$50^{\pm 0,195}$	
		$60^{\pm 0,230}$	
30,1	38	$20^{\pm 0,165}$	0,6
32	35	$35^{\pm 0,195}$	0,3
		$40^{\pm 0,195}$	
	36	$25^{\pm 0,165}$	0,3
		$30^{\pm 0,165}$	
	38	$20^{\pm 0,165}$	0,4
		$25^{\pm 0,165}$	
		$30^{\pm 0,165}$	
		$32^{\pm 0,195}$	
		$38^{\pm 0,195}$	
		$40^{\pm 0,195}$	
		$50^{\pm 0,195}$	
	40	$20^{\pm 0,165}$	0,6
		$25^{\pm 0,165}$	
		$30^{\pm 0,165}$	
32	40	$32^{\pm 0,195}$	0,6
		$35^{\pm 0,195}$	
		$40^{\pm 0,195}$	
		$45^{\pm 0,195}$	
		$50^{\pm 0,195}$	
34	40	$50^{\pm 0,195}$	0,4
35	39	$30^{\pm 0,165}$	0,3
	40	$20^{\pm 0,165}$	0,4
		$25^{\pm 0,165}$	
		$30^{\pm 0,165}$	
		$35^{\pm 0,195}$	
		$40^{\pm 0,195}$	
		$45^{\pm 0,195}$	
		$50^{\pm 0,195}$	
	41	$25^{\pm 0,165}$	0,4
		$35^{\pm 0,195}$	
		$40^{\pm 0,195}$	
	42	$16^{\pm 0,135}$	0,6
		$35^{\pm 0,195}$	
		$42^{\pm 0,195}$	
		$50^{\pm 0,195}$	
	44	$22^{\pm 0,165}$	0,7
		$28^{\pm 0,165}$	
		$35^{\pm 0,195}$	
	45	$20^{\pm 0,165}$	0,7
		$25^{\pm 0,165}$	
		$30^{\pm 0,165}$	

Dimensioni (mm) *Dimensions (mm)*			
$d_{(G7)}$	$D_{(s7)}$	$L_{(js13)}$	C_{max}
35	45	$35^{\pm 0,195}$	0,7
		$40^{\pm 0,195}$	
		$45^{\pm 0,195}$	
		$50^{\pm 0,195}$	
		$55^{\pm 0,230}$	
		$60^{\pm 0,230}$	
	50	$50^{\pm 0,195}$	0,7
36	42	$22^{\pm 0,165}$	0,4
		$28^{\pm 0,165}$	
		$36^{\pm 0,195}$	
		$45^{\pm 0,195}$	
		$50^{\pm 0,195}$	
	45	$22^{\pm 0,165}$	0,7
		$28^{\pm 0,165}$	
		$36^{\pm 0,195}$	
		$45^{\pm 0,195}$	
	50	$50^{\pm 0,195}$	0,8
38	44	$25^{\pm 0,165}$	0,4
		$35^{\pm 0,195}$	
		$45^{\pm 0,195}$	
	48	$35^{\pm 0,195}$	0,7
		$45^{\pm 0,195}$	
		$55^{\pm 0,230}$	
40	45	$20^{\pm 0,165}$	0,4
		$30^{\pm 0,165}$	
		$35^{\pm 0,195}$	
		$40^{\pm 0,195}$	
		$45^{\pm 0,195}$	
		$50^{\pm 0,195}$	
		$55^{\pm 0,230}$	
	46	$25^{\pm 0,165}$	0,4
		$30^{\pm 0,165}$	
		$32^{\pm 0,195}$	
		$40^{\pm 0,195}$	
		$50^{\pm 0,195}$	
	50	$20^{\pm 0,165}$	0,7
		$25^{\pm 0,165}$	
		$30^{\pm 0,165}$	
		$32^{\pm 0,165}$	
		$35^{\pm 0,195}$	
		$40^{\pm 0,195}$	
		$45^{\pm 0,195}$	
		$50^{\pm 0,195}$	
		$60^{\pm 0,230}$	
		$80^{\pm 0,230}$	
	60	$60^{\pm 0,230}$	0,8
42	48	$40^{\pm 0,195}$	0,4
		$50^{\pm 0,195}$	
	52	$40^{\pm 0,195}$	0,7
		$50^{\pm 0,195}$	
43	55	$40^{\pm 0,195}$	0,8

Dimensioni (mm) *Dimensions (mm)*			
$d_{(G7)}$	$D_{(s7)}$	$L_{(js13)}$	C_{max}
45	51	$28^{\pm 0,165}$	0,4
		$35^{\pm 0,195}$	
		$36^{\pm 0,195}$	
		$45^{\pm 0,195}$	
		$55^{\pm 0,230}$	
		$56^{\pm 0,230}$	
	55	$30^{\pm 0,165}$	0,7
		$35^{\pm 0,195}$	
		$45^{\pm 0,195}$	
		$50^{\pm 0,195}$	
		$55^{\pm 0,230}$	
		$60^{\pm 0,230}$	
		$65^{\pm 0,230}$	
	56	$28^{\pm 0,165}$	0,8
		$35^{\pm 0,195}$	
		$36^{\pm 0,195}$	
		$45^{\pm 0,195}$	
		$56^{\pm 0,230}$	
	60	$40^{\pm 0,195}$	0,8
		$45^{\pm 0,195}$	
		$50^{\pm 0,195}$	
		$60^{\pm 0,230}$	
48	55	$50^{\pm 0,195}$	0,6
	58	$50^{\pm 0,195}$	0,7
50	54	$45^{\pm 0,195}$	0,3
	56	$32^{\pm 0,195}$	0,4
		$40^{\pm 0,195}$	
		$50^{\pm 0,195}$	
		$63^{\pm 0,230}$	
	60	$30^{\pm 0,165}$	0,7
		$32^{\pm 0,165}$	
		$35^{\pm 0,195}$	
		$40^{\pm 0,195}$	
		$45^{\pm 0,195}$	
		$50^{\pm 0,195}$	
		$60^{\pm 0,230}$	
		$63^{\pm 0,230}$	
		$65^{\pm 0,230}$	
		$70^{\pm 0,230}$	
		$75^{\pm 0,230}$	
		$80^{\pm 0,230}$	
55	63	$40^{\pm 0,195}$	0,6
		$55^{\pm 0,230}$	
	65	$40^{\pm 0,195}$	0,7
		$55^{\pm 0,230}$	
		$60^{\pm 0,230}$	
		$65^{\pm 0,230}$	
		$70^{\pm 0,230}$	
	70	$70^{\pm 0,230}$	0,8
		$75^{\pm 0,230}$	

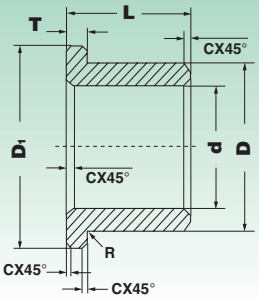


Dimensioni (mm) *Dimensions (mm)*			
$d_{(G7)}$	$D_{(s7)}$	$L_{(js13)}$	C_{max}
60	68	$50^{\pm0,195}$	0,6
		$60^{\pm0,230}$	
	70	$25^{\pm0,165}$	0,7
		$50^{\pm0,195}$	
		$60^{\pm0,230}$	
		$70^{\pm0,230}$	
		$80^{\pm0,230}$	
		$90^{\pm0,270}$	
		$120^{\pm0,270}$	
	72	$50^{\pm0,195}$	0,8
		$60^{\pm0,230}$	
		$70^{\pm0,230}$	
	75	$60^{\pm0,230}$	0,8
		$70^{\pm0,230}$	
		$75^{\pm0,230}$	
		$80^{\pm0,230}$	0,8
		$90^{\pm0,270}$	
	80	$90^{\pm0,270}$	0,8
		$120^{\pm0,270}$	
63	70	$40^{\pm0,195}$	0,6
		$50^{\pm0,195}$	
65	75	$65^{\pm0,230}$	0,7
		$70^{\pm0,230}$	

Dimensioni (mm) *Dimensions (mm)*			
$d_{(G7)}$	$D_{(s7)}$	$L_{(js13)}$	C_{max}
65	75	$80^{\pm0,230}$	0,7
	80	$40^{\pm0,195}$	0,8
		$60^{\pm0,230}$	
		$80^{\pm0,230}$	
		$90^{\pm0,270}$	
70	80	$28^{\pm0,165}$	0,7
		$35^{\pm0,195}$	
		$60^{\pm0,230}$	
		$70^{\pm0,230}$	
		$80^{\pm0,230}$	
		$90^{\pm0,270}$	
		$120^{\pm0,270}$	
	85	$60^{\pm0,230}$	0,8
		$70^{\pm0,230}$	
		$80^{\pm0,230}$	
		$90^{\pm0,270}$	
75	90	$60^{\pm0,230}$	0,8
		$70^{\pm0,230}$	
80	90	$35^{\pm0,195}$	0,7
		$70^{\pm0,230}$	
	95	$70^{\pm0,230}$	0,8
		$80^{\pm0,230}$	
		$90^{\pm0,270}$	
		$100^{\pm0,270}$	

Dimensioni (mm) *Dimensions (mm)*			
$d_{(G7)}$	$D_{(s7)}$	$L_{(js13)}$	C_{max}
80	96	$60^{\pm0,230}$	0,8
	100	$80^{\pm0,230}$	0,8
		$120^{\pm0,270}$	
85	100	$60^{\pm0,230}$	0,8
		$70^{\pm0,230}$	
		$80^{\pm0,230}$	
		$100^{\pm0,270}$	
90	100	$70^{\pm0,230}$	0,7
		$80^{\pm0,230}$	
		$90^{\pm0,270}$	
		$100^{\pm0,270}$	
	110	$65^{\pm0,230}$	0,8
		$80^{\pm0,230}$	
100	110	$65^{\pm0,230}$	0,7
	120	$65^{\pm0,230}$	0,8
		$80^{\pm0,230}$	
		$100^{\pm0,270}$	
		$120^{\pm0,270}$	
	120,3	$65^{\pm0,230}$	0,8
110	120,3	$65^{\pm0,230}$	0,8
	125	$120^{\pm0,270}$	0,8
125	150	$120^{\pm0,270}$	0,8
-	-	-	-

Per ordinare specificare: BNZ e/o FE + d + L ***To order, please specify: BNZ e/o FE + d + L***

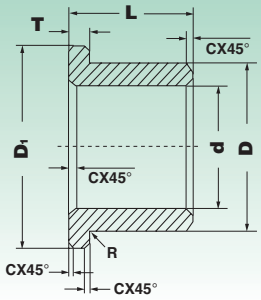


Dimensioni (mm)
Dimensions (mm)

$d_{(G7)}$	$D_{(s7)}$	$D_{1(js13)}$	$T_{(js13)}$	$L_{(js13)}$	R	C_{max}
2	5	8	1,5	$3^{\pm0,070}$	0,3	0,3
3	6	8	1,5	$10^{\pm0,110}$	0,3	0,3
		9		$4^{\pm0,090}$		
				$5^{\pm0,090}$		
				$6^{\pm0,090}$		
				$10^{\pm0,110}$		
4	8	10	2	$6^{\pm0,090}$	0,3	0,3
				$8^{\pm0,110}$		
		12	2	$3^{\pm0,070}$		
				$4^{\pm0,090}$		
				$5^{\pm0,090}$		
				$6^{\pm0,090}$		
				$8^{\pm0,110}$		
				$10^{\pm0,110}$		
				$12^{\pm0,135}$		
5	9	13	2	$4^{\pm0,090}$	0,3	0,3
				$5^{\pm0,090}$		
				$8^{\pm0,110}$		
	10	12	2	$7^{\pm0,110}$	0,3	0,4
				$8^{\pm0,110}$		
				$12^{\pm0,135}$		
				$15^{\pm0,135}$		
				$16^{\pm0,135}$		
		13	2	$15^{\pm0,135}$		
6	9	13	2	$8^{\pm0,110}$	0,3	0,3
	10	12	2	$6^{\pm0,090}$	0,3	0,3
				$8^{\pm0,110}$		
				$10^{\pm0,110}$		
				$12^{\pm0,135}$		
				$14^{\pm0,135}$		
				$16^{\pm0,135}$		
		14	1,5	$13^{\pm0,135}$		
			2	$4^{\pm0,090}$		
				$5^{\pm0,090}$		
				$6^{\pm0,090}$		
				$8^{\pm0,110}$		
				$10^{\pm0,110}$		
				$12^{\pm0,135}$		
				$14^{\pm0,135}$		
				$15^{\pm0,135}$		
				$16^{\pm0,135}$		
	12	14	2	$6^{\pm0,090}$	0,3	0,4
				$8^{\pm0,110}$		
				$10^{\pm0,110}$		
				$12^{\pm0,135}$		
				$13^{\pm0,135}$		
				$16^{\pm0,135}$		
				$20^{\pm0,165}$		
7	11	15	2	$5^{\pm0,090}$	0,3	0,3
				$8^{\pm0,110}$		
				$10^{\pm0,110}$		

Dimensioni (mm)
Dimensions (mm)

$d_{(G7)}$	$D_{(s7)}$	$D_{1(js13)}$	$T_{(js13)}$	$L_{(js13)}$	R	C_{max}
7	12	15	2,5	$15^{\pm0,135}$	0,3	0,4
		16	2	$8^{\pm0,110}$	0,3	0,4
				$12^{\pm0,135}$		
8	12	15	2	$6^{\pm0,090}$	0,3	0,3
		16	2	$6^{\pm0,090}$	0,3	0,3
				$8^{\pm0,110}$		
				$10^{\pm0,110}$		
				$12^{\pm0,135}$		
				$14^{\pm0,135}$		
				$15^{\pm0,135}$		
				$16^{\pm0,135}$		
				$20^{\pm0,165}$		
		20	2	$10^{\pm0,110}$	0,3	0,3
	14	18	3	$8^{\pm0,110}$	0,6	0,4
				$11^{\pm0,135}$		
				$12^{\pm0,135}$		
				$14^{\pm0,135}$		
				$20^{\pm0,165}$		
	15	18	2	$20^{\pm0,165}$	0,6	0,6
9	14	19	2,5	$6^{\pm0,090}$	0,6	0,4
				$10^{\pm0,110}$		
				$14^{\pm0,135}$		
	15	20	4,5	$20^{\pm0,165}$	0,6	0,4
10	12	15	2,0	$6^{\pm0,090}$	0,3	0,2
	13	16	1,0	$5,5^{\pm0,090}$	0,6	0,3
			1,5	$10^{\pm0,110}$		
			2	$6^{\pm0,090}$		
		17	2,5	$10^{\pm0,110}$		
				$16^{\pm0,135}$		
				$20^{\pm0,165}$		
	14	18	1	$4^{\pm0,090}$	0,6	0,3
				$14^{\pm0,135}$		
			2	$6^{\pm0,090}$		
			3	$11^{\pm0,135}$		
			2	$8^{\pm0,110}$		
				$10^{\pm0,110}$		
			3			
			2	$12^{\pm0,135}$		
				$14^{\pm0,135}$		
			3			
				$15^{\pm0,135}$		
			2	$16^{\pm0,135}$		
				$20^{\pm0,165}$		
			3			
	15	19	2	$20^{\pm0,165}$	0,6	0,4
			3,5	$6,5^{\pm0,090}$		
		20				
		21	3	$8^{\pm0,110}$		
				$10^{\pm0,110}$		
				$15^{\pm0,135}$		
				$16^{\pm0,135}$		
				$20^{\pm0,165}$		

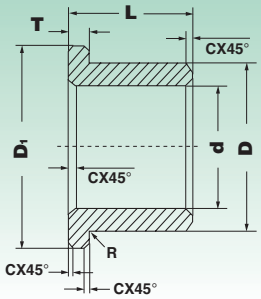


Dimensioni (mm)
Dimensions (mm)

$d_{(G7)}$	$D_{(s7)}$	$D_{1(js13)}$	$T_{(js13)}$	$L_{(js13)}$	R	C_{max}
10	16	20	3	$8^{\pm0,110}$	0,6	0,4
				$10^{\pm0,110}$		
				$16^{\pm0,135}$		
				$20^{\pm0,165}$		
				$30^{\pm0,165}$		
		22		$8^{\pm0,110}$		
				$10^{\pm0,110}$		
				$16^{\pm0,135}$		
12	14	20	2	$18^{\pm0,135}$	0,6	0,2
	15	18	1,5	$8^{\pm0,110}$	0,6	0,3
				$20^{\pm0,165}$		
			2	$7^{\pm0,110}$		
		21	3	$12^{\pm0,135}$		
				$16^{\pm0,135}$		
				$20^{\pm0,165}$		
	16	18	2	$12^{\pm0,135}$	0,6	0,3
				$14^{\pm0,135}$		
				$20^{\pm0,165}$		
		20		$8^{\pm0,110}$		
				$10^{\pm0,110}$		
				$11^{\pm0,135}$		
				$12^{\pm0,135}$		
				$16^{\pm0,135}$		
				$18^{\pm0,135}$		
				$25^{\pm0,165}$		
		25	3	$18^{\pm0,135}$		
	17	23	3	$12^{\pm0,135}$	0,6	0,4
				$16^{\pm0,135}$		
				$20^{\pm0,165}$		
				$25^{\pm0,165}$		
	18	22	3	$10^{\pm0,110}$	0,6	0,4
				$12^{\pm0,135}$		
				$16^{\pm0,135}$		
				$18^{\pm0,135}$		
				$20^{\pm0,165}$		
				$25^{\pm0,165}$		
		24		$8^{\pm0,110}$		
				$12^{\pm0,135}$		
				$20^{\pm0,165}$		
13	16	20	2	$15^{\pm0,135}$	0,6	0,4
	18	23	5	$25^{\pm0,165}$	0,6	0,4
14	18	22	2	$14^{\pm0,135}$	0,6	0,3
				$18^{\pm0,135}$		
				$22^{\pm0,165}$		
	20	24	4	$25^{\pm0,165}$	0,6	0,4
		25	3	$10^{\pm0,110}$		
				$12^{\pm0,135}$		
				$14^{\pm0,135}$		
				$20^{\pm0,165}$		
				$25^{\pm0,165}$		
				$30^{\pm0,165}$		

Dimensioni (mm)
Dimensions (mm)

$d_{(G7)}$	$D_{(s7)}$	$D_{1(js13)}$	$T_{(js13)}$	$L_{(js13)}$	R	C_{max}
14	20	26	3	$10^{\pm0,110}$	0,6	0,4
				$14^{\pm0,135}$		
				$15^{\pm0,135}$		
				$18^{\pm0,135}$		
				$20^{\pm0,165}$		
				$22^{\pm0,165}$		
				$28^{\pm0,165}$		
15	19	25	3	$16^{\pm0,135}$	0,6	0,3
				$20^{\pm0,165}$		
				$25^{\pm0,165}$		
	20	24	2,5	$30^{\pm0,165}$	0,6	0,4
		25	3	$15^{\pm0,135}$		
				$20^{\pm0,165}$		
			3	$25^{\pm0,165}$		
				$30^{\pm0,165}$		
		28	4	$20^{\pm0,165}$		
				$32^{\pm0,195}$		
	21	27	3	$10^{\pm0,110}$	0,6	0,4
				$15^{\pm0,135}$		
				$16^{\pm0,135}$		
				$20^{\pm0,165}$		
				$25^{\pm0,165}$		
				$32^{\pm0,195}$		
	22	28	3	$12^{\pm0,135}$	0,6	0,6
				$15^{\pm0,135}$		
				$16^{\pm0,135}$		
				$22^{\pm0,165}$		
				$25^{\pm0,165}$		
				$30^{\pm0,165}$		
16	20	24	2	$9^{\pm0,110}$	0,6	0,3
				$16^{\pm0,135}$		
				$20^{\pm0,165}$		
				$25^{\pm0,165}$		
			3	$16^{\pm0,135}$		
			4	$16^{\pm0,135}$		
		27	3	$15^{\pm0,135}$		
				$16^{\pm0,135}$		
				$20^{\pm0,165}$		
				$25^{\pm0,165}$		
	22	28	3	$12^{\pm0,135}$	0,6	0,4
				$16^{\pm0,135}$		
				$21^{\pm0,165}$		
			4	$21^{\pm0,165}$		
			3	$15^{\pm0,135}$		
				$16^{\pm0,135}$		
			3,5			
			4			
			3	$20^{\pm0,165}$		
			4			
			3,5	$22^{\pm0,165}$		
			3	$25^{\pm0,165}$		
				$30^{\pm0,165}$		

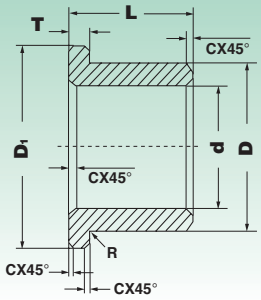


Dimensioni (mm)
Dimensions (mm)

$d_{(G7)}$	$D_{(s7)}$	$D_{1(js13)}$	$T_{(js13)}$	$L_{(js13)}$	R	C_{max}
16	22	28	3,5	$30^{\pm0,165}$	0,6	0,4
			3	$32^{\pm0,195}$		
			3,5	$35^{\pm0,195}$		
17	22	26	2	$30^{\pm0,165}$	0,6	0,4
	25	32	4	$17^{\pm0,135}$	0,6	0,6
				$25^{\pm0,165}$		
				$35^{\pm0,195}$		
18	22	26	2	$18^{\pm0,135}$	0,6	0,3
				$22^{\pm0,165}$		
				$28^{\pm0,165}$		
		28	3	$12^{\pm0,135}$		
	24	30	3	$12^{\pm0,135}$	0,6	0,4
				$15^{\pm0,135}$		
				$18^{\pm0,135}$		
				$22^{\pm0,165}$		
				$28^{\pm0,165}$		
				$30^{\pm0,165}$		
	25	31	5	$30^{\pm0,165}$	0,6	0,6
		32	4	$14^{\pm0,135}$		
				$16^{\pm0,135}$		
				$18^{\pm0,135}$		
				$20^{\pm0,165}$		
				$25^{\pm0,165}$		
				$30^{\pm0,165}$		
				$35^{\pm0,195}$		
			5	$30^{\pm0,165}$		
				$35^{\pm0,195}$		
20	24	28	2	$25^{\pm0,165}$	0,6	0,3
		30	3	$16^{\pm0,135}$		
				$20^{\pm0,165}$		
				$25^{\pm0,165}$		
	25	28	2	$30^{\pm0,165}$	0,6	0,4
		30	4	$25^{\pm0,165}$		
	26	32	3	$12^{\pm0,135}$	0,6	0,4
				$15^{\pm0,135}$		
				$16^{\pm0,135}$		
				$20^{\pm0,165}$		
				$23^{\pm0,165}$		
				$25^{\pm0,165}$		
				$30^{\pm0,165}$		
				$32^{\pm0,195}$		
			2	$25^{\pm0,165}$		
				$40^{\pm0,195}$		
	28	35	4	$16^{\pm0,135}$	0,6	0,6
				$20^{\pm0,165}$		
				$25^{\pm0,165}$		
				$30^{\pm0,165}$		
				$35^{\pm0,195}$		
				$40^{\pm0,195}$		
22	27	32	2,5	$18^{\pm0,135}$	0,6	0,4
				$22^{\pm0,165}$		
				$28^{\pm0,165}$		

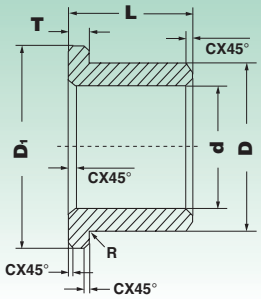
Dimensioni (mm)
Dimensions (mm)

$d_{(G7)}$	$D_{(s7)}$	$D_{1(js13)}$	$T_{(js13)}$	$L_{(js13)}$	R	C_{max}
	28	32	3	$20^{\pm0,165}$	0,6	0,4
		34		$15^{\pm0,135}$		
				$20^{\pm0,165}$		
				$25^{\pm0,165}$		
				$30^{\pm0,165}$		
		35		$22^{\pm0,165}$		
	29	36	3,5	$18^{\pm0,135}$	0,6	0,6
				$22^{\pm0,165}$		
				$28^{\pm0,165}$		
				$40^{\pm0,195}$		
	32	40	5	$20^{\pm0,165}$	0,8	0,7
				$22^{\pm0,165}$		
				$30^{\pm0,165}$		
				$32^{\pm0,195}$		
				$40^{\pm0,195}$		
24	32	35	4,6	$14,6^{\pm0,135}$	0,6	0,6
25	30	35	3	$40^{\pm0,195}$	0,6	0,4
		36		$20^{\pm0,165}$		
				$45^{\pm0,195}$		
		39	3,5	$20^{\pm0,165}$		
				$25^{\pm0,165}$		
				$32^{\pm0,195}$		
		40	4	$16^{\pm0,135}$		
				$20^{\pm0,165}$		
				$25^{\pm0,165}$		
	32	39	3,5	$20^{\pm0,165}$	0,8	0,6
				$25^{\pm0,165}$		
				$30^{\pm0,165}$		
				$32^{\pm0,195}$		
		40	5	$16^{\pm0,135}$		
				$20^{\pm0,165}$		
				$25^{\pm0,165}$		
				$30^{\pm0,165}$		
				$32^{\pm0,195}$		
				$40^{\pm0,195}$		
				$53^{\pm0,230}$		
		35	45	$16^{\pm0,135}$		
				$25^{\pm0,165}$		
				$30^{\pm0,165}$		
				$35^{\pm0,195}$		
				$45^{\pm0,195}$		
	35	45	5	$16^{\pm0,135}$	0,8	0,7
				$25^{\pm0,165}$		
				$39^{\pm0,195}$		
				$35^{\pm0,195}$		
				$45^{\pm0,195}$		
28	33	38	2,5	$22^{\pm0,165}$	0,8	0,4
				$28^{\pm0,165}$		
				$35^{\pm0,195}$		
	35	38	2,5	$20^{\pm0,165}$	0,8	0,6
				$28^{\pm0,165}$		



Dimensioni (mm) *Dimensions (mm)*						
$d_{(G7)}$	$D_{(s7)}$	$D_{1(js13)}$	$T_{(js13)}$	$L_{(js13)}$	R	C_{max}
28	36	44	4	$20^{\pm0,165}$	0,8	0,6
				$22^{\pm0,165}$		
				$25^{\pm0,165}$		
				$28^{\pm0,165}$		
				$30^{\pm0,165}$		
				$35^{\pm0,195}$		
				$36^{\pm0,195}$		
				$40^{\pm0,195}$		
	40	50	5	$16^{\pm0,135}$	0,8	0,8
30	34	45	2	$20^{\pm0,165}$	0,8	0,3
	35	40	3	$30^{\pm0,165}$	0,8	0,4
				$35^{\pm0,195}$		
				$40^{\pm0,195}$		
	38	46	4	$20^{\pm0,165}$	0,8	0,6
				$25^{\pm0,165}$		
				$30^{\pm0,165}$		
		50		$45^{\pm0,195}$		
	40	45	5	$36^{\pm0,195}$	0,8	0,7
		48	4	$25^{\pm0,165}$		
				$30^{\pm0,165}$		
				$35^{\pm0,195}$		
				$40^{\pm0,195}$		
		50	5	$20^{\pm0,165}$		
				$30^{\pm0,165}$		
				$40^{\pm0,195}$		
				$42^{\pm0,195}$		
				$55^{\pm0,230}$		
32	38	46	4	$20^{\pm0,165}$	0,8	0,4
				$25^{\pm0,165}$		
				$32^{\pm0,195}$		
	40	45	5	$50^{\pm0,195}$	0,8	0,6
		48	4	$20^{\pm0,165}$		
				$25^{\pm0,165}$		
				$28^{\pm0,165}$		
				$30^{\pm0,165}$		
				$32^{\pm0,195}$		
				$35^{\pm0,195}$		
				$36^{\pm0,195}$		
				$40^{\pm0,195}$		
	42	48	5	$15^{\pm0,135}$	0,8	0,7
				$32^{\pm0,195}$		
				$40^{\pm0,195}$		
35	45	55	5	$20^{\pm0,165}$	0,8	0,7
				$25^{\pm0,165}$		
				$30^{\pm0,165}$		
				$35^{\pm0,195}$		
				$40^{\pm0,195}$		
				$45^{\pm0,195}$		
				$50^{\pm0,195}$		
36	45	48	4,5	$22^{\pm0,165}$	0,8	0,7
38	48	58	5	$25^{\pm0,165}$	0,8	0,7
				$35^{\pm0,195}$		

Dimensioni (mm) *Dimensions (mm)*						
$d_{(G7)}$	$D_{(s7)}$	$D_{1(js13)}$	$T_{(js13)}$	$L_{(js13)}$	R	C_{max}
39,5	48	55	5	$15^{\pm0,135}$	0,8	0,7
40	46	50	6	$26^{\pm0,165}$	0,8	0,4
		56	5	$25^{\pm0,165}$		
				$32^{\pm0,195}$		
				$40^{\pm0,195}$		
	50	60	5	$25^{\pm0,165}$	0,8	0,7
				$30^{\pm0,165}$		
				$32^{\pm0,195}$		
				$35^{\pm0,195}$		
				$40^{\pm0,195}$		
				$50^{\pm0,195}$		
			6	$22,5^{\pm0,165}$		
				$25^{\pm0,165}$		
				$30^{\pm0,165}$		
				$40^{\pm0,195}$		
				$50^{\pm0,195}$		
				$60^{\pm0,230}$		
42	52	62	5	$30^{\pm0,165}$	0,8	0,7
				$40^{\pm0,195}$		
				$50^{\pm0,195}$		
45	51	57	3	$28^{\pm0,165}$	0,8	0,4
				$36^{\pm0,195}$		
				$45^{\pm0,195}$		
	55	65	5	$35^{\pm0,195}$	0,8	0,7
			6	$45^{\pm0,195}$		
				$55^{\pm0,230}$		
				$65^{\pm0,230}$		
				$30^{\pm0,165}$		
				$35^{\pm0,195}$		
				$40^{\pm0,195}$		
				$45^{\pm0,195}$		
				$55^{\pm0,230}$		
				$65^{\pm0,230}$		
	56	67	5,5	$28^{\pm0,165}$	0,8	0,8
				$36^{\pm0,165}$		
				$45^{\pm0,195}$		
50	56	62	3	$32^{\pm0,195}$	0,8	0,4
				$40^{\pm0,195}$		
				$50^{\pm0,195}$		
	60	70	5	$32^{\pm0,195}$	0,8	0,7
				$35^{\pm0,195}$		
				$40^{\pm0,195}$		
				$50^{\pm0,195}$		
				$60^{\pm0,230}$		
			6	$30^{\pm0,195}$		
				$31^{\pm0,195}$		
				$40^{\pm0,195}$		
				$50^{\pm0,195}$		
				$60^{\pm0,230}$		
				$70^{\pm0,230}$		
55	64	71	5	$45^{\pm0,195}$	0,8	0,7



Dimensioni (mm) *Dimensions (mm)*						
$d_{(G7)}$	$D_{(s7)}$	$D_{1(js13)}$	$T_{(js13)}$	$L_{(js13)}$	R	C_{max}
60	70	80	5	$50^{\pm0.195}$	0,8	0,7
				$60^{\pm0.230}$		
	75	85	6	$60^{\pm0.230}$		
				$60^{\pm0.230}$	0,8	0,8
			8			
			6	$65^{\pm0.230}$		
				$70^{\pm0.230}$		
70	85	95	6	$56^{\pm0,230}$	0,8	0,8
				$60^{\pm0.230}$		
			8			

Dimensioni (mm) *Dimensions (mm)*						
$d_{(G7)}$	$D_{(s7)}$	$D_{1(js13)}$	$T_{(js13)}$	$L_{(js13)}$	R	C_{max}
70	85	95	6	$65^{\pm0.230}$	0,8	0,8
			8	$70^{\pm0.230}$		
			6	$80^{\pm0.230}$		
80	95	105	8	$60^{\pm0.230}$	0,8	0,8
				$70^{\pm0.230}$		
				$80^{\pm0.230}$		
				$90^{\pm0.230}$		
100	110	115	5	$95^{\pm0.230}$	0,8	0,8

Per ordinare specificare: BNZF e/o FEF + d + D + D_1 + T + L

To order, please specify: BNZF e/o FEF + d + D + D_1 + T + L