

Overview

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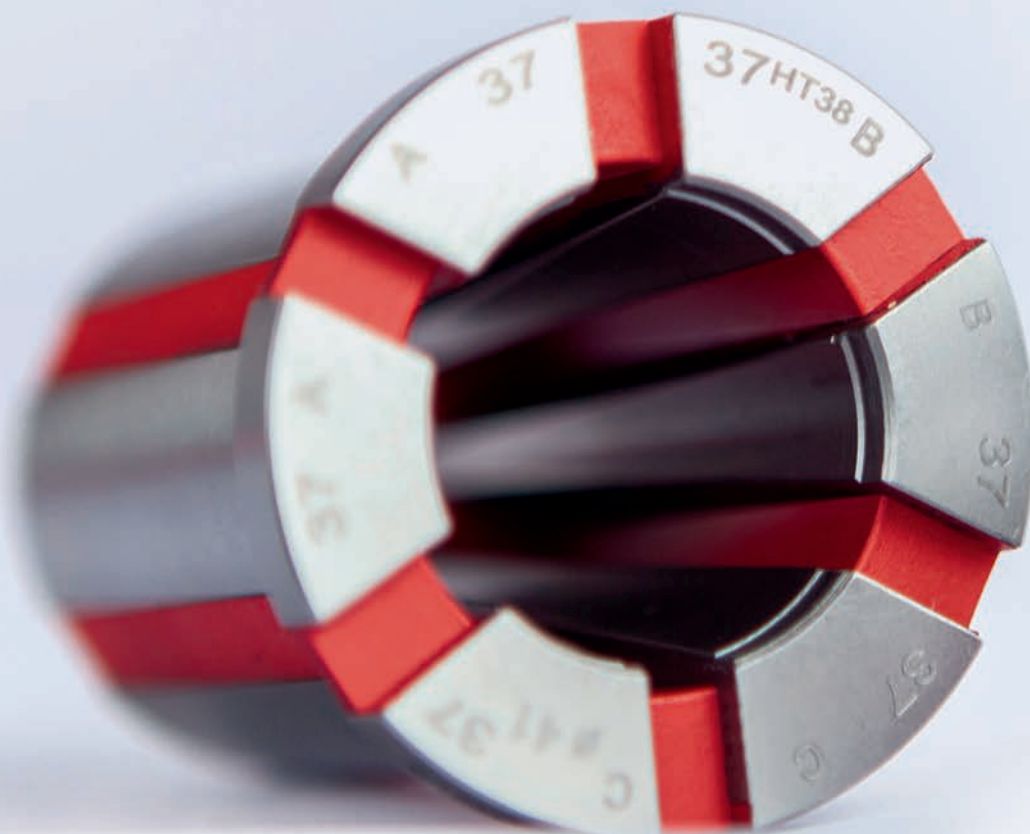
Standard segmented clamping bushings

	Segmented clamping bushing RD	Segmented clamping bushing SE
		
Variant	RD [round]	SE [hexagonal]
Applications	Raw material clamping, clamping of finished material	Raw material clamping, clamping of finished material
Sizes	XXS, XS, S, 1, 2, 3, 4, 5, 6, 7	A, B, C, D, E, F
Clamping range of all sizes [mm]	8 – 200	18 – 100
Advantages	■ Parallel clamping over the entire clamping length ■ Vibration dampening through rigid steel segments ■ Large clamping ranges due to elastic vulcanization between the segments	■ Run-out accuracy ≤ 0.007 mm possible ■ Unique rigidity through pyramid shape ■ Resistant to contamination through large-surface contact of the clamping segments ■ Active torsional safety ■ Longer maintenance intervals
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Bushings

RD – round clamping geometry





SEGMENTED CLAMPING BUSHINGS

Segmented clamping bushings RD

In terms of precision, stability, and flexibility the vulcanized segmented clamping bushings are unbeatable. They consist of segments made of chrome/nickel, case hardened steel that is very hard, extremely wear resistant, and rigid [60 HRC]. Plus, they do not have to »bend« to clamp the workpiece. In addition, all functional surfaces are completely ground in one clamping set-up. The result: maximum run-out accuracy, maximum holding power, and long life span.

Key advantages

- Parallel clamping over the entire clamping length
- Vibration dampening through rigid steel segments
- Large clamping ranges due to elastic vulcanization between the segments

SEGMENTED CLAMPING BUSHINGS

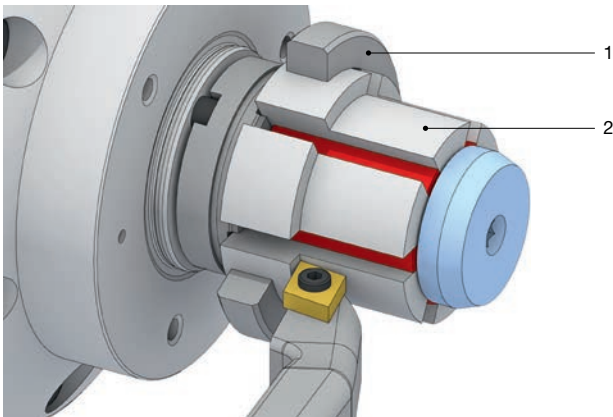
Segmented clamping bushings RD



RD models

	MANDO T211 / G211 segmented clamping bushing	MANDO T212 / T812 segmented clamping bushing	MANDO SAD segmented clamping bushing
			
Applications	Raw material / machined part	Raw material / machined part	For machining to size
Sizes	0, 1, 2, 3, 4, 5, 6, 7	XXS, XS, S, 1, 2, 3, 4, 5, 6, 7	XXS, XS, S, 1, 2, 3, 4, 5, 6, 7
Clamping range of all sizes [mm]	20 – 200	8 – 190	18 – 200
Clamping surface	Smooth	Smooth	
Material condition	60 HRC	60 HRC	50 HRC
Standard profiles	Round	Round	Round
Special - serration	Coarse toothed [Z] Finely serrated [F]	Coarse toothed [Z] Finely serrated [F]	
Definition	211 = with draw bolt	212 / 812 = without draw bolt	SAD = for machining to size

Machining the MANDO T211 / G211 SAD segmented clamping bushing to size

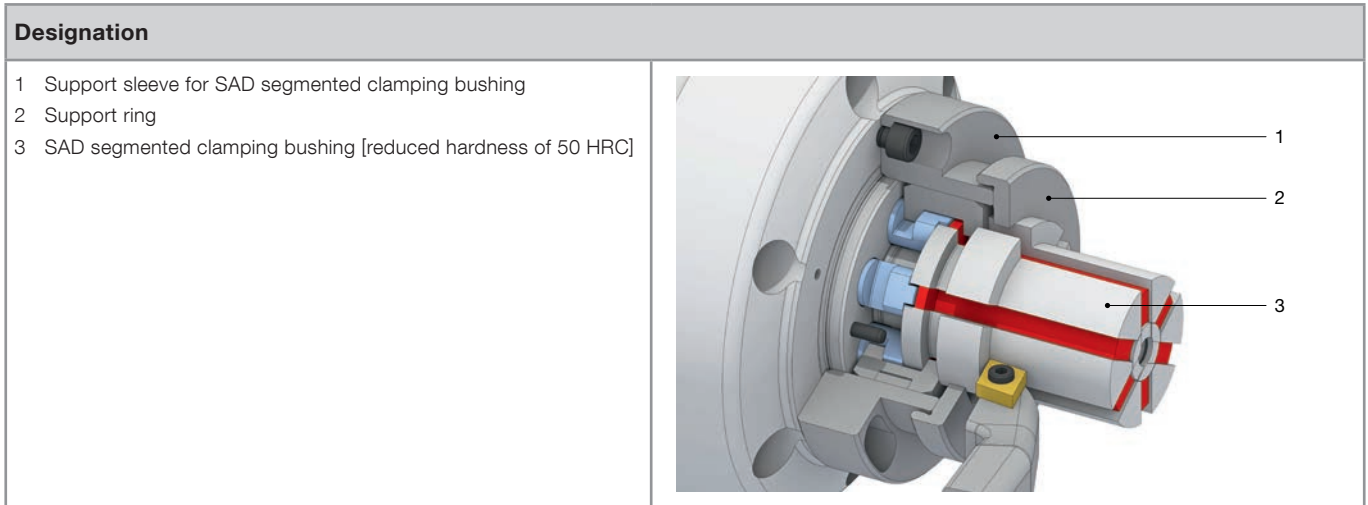
Designation	
1 Support ring 2 SAD segmented clamping bushing [reduced hardness of 50 HRC]	



SEGMENTED CLAMPING BUSHINGS

Segmented clamping bushings RD

Machining the MANDO T212 / T812 SAD segmented clamping bushing to size



Segmented clamping bushing MANDO T211 / G211

Size	Clamping range [mm]	Range / recommended workpiece tolerance [mm]	Max. clamping length [mm]	Increments [mm]	In stock	Material no.
0	20 - 28	± 0,25	22	0,5	✓	sb100r20,0-28,0
1	26 - 38	± 0,25	26	0,5	✓	sb110r26,0-38,0
2	36 - 54	± 0,25	43	0,5	✓	sb120r36,0-54,0
3	50 - 80	± 0,35	49	0,5	✓	sb130r50,0-80,0
4	69 - 100	± 0,4	59	0,5	✓	sb140r69,0-100,0
	101 - 120			1	-	sb140r101,0-120,0
5	100 - 130	± 0,5	86	1	-	sb150r100,0-130,0
6	130 - 160	± 0,5	96	1	-	sb160r130,0-160,0
7	160 - 200	± 0,5	94	1	-	sb170r160,0-200,0

Segmented clamping bushing size 5, 6, and 7 upon request.
For size 4, clamping range 101 - 120 mm, a max. speed of 4200 RPM applies.

SEGMENTED CLAMPING BUSHINGS

Segmented clamping bushings RD



Segmented clamping bushing MANDO T211 / G211 SAD. For machining to size

Size	Clamping Ø [mm]	Particularity	At least clamping Ø [mm]	Max. clamping length [mm]	In stock	Material no.
0	24	Face and clamping surface 50 HRC	20	22	✓	10008191
	28				✓	10008192
1	32	Face and clamping surface 50 HRC	26	26	✓	10008193
	38				✓	10008194
2	42	Face and clamping surface 50 HRC	36	43	✓	10008195
	48				✓	10008196
	54				✓	10008197
3	56	Face and clamping surface 50 HRC	50	49	✓	10008198
	62				✓	10008199
	70				✓	10008200
	80				✓	10008201
4	76	Face and clamping surface 50 HRC	70	59	✓	10008204
	84				✓	10008205
	92				✓	10008206
	100				✓	10008202
	120			48	✓	10008203
5	110	Face and clamping surface 50 HRC	100	76	✓	10008207
	120				✓	10008208
	130				✓	10008209
6	140	Face and clamping surface 50 HRC	130	84	✓	10008210
	150				✓	10008211
	160				✓	10008212
7	170	Face and clamping surface 50 HRC	160	89	✓	10008213
	180				✓	10008214
	200				✓	10008216

Support ring is included free of charge.

Segmented clamping bushing MANDO T212 and T812

Size	Clamping Ø [mm]	Range / recommended workpiece tolerance [mm]	Max. clamping length [mm]	Increments [mm]	In stock	Material no.
XXS	8	± 0,2	6	0,5	✓	10009234
	8,5		6,7		✓	10009235
	9		7,4		✓	10009236
	9,5		8,1		✓	10009237
	10		8,8		✓	10009227
	10,5		9,4		✓	10009228
	11		10,1		✓	10009229
	11,5		10,8		✓	10009230
	12		11,5		✓	10009231
	12,5		12,2		✓	10009232
	13		12,9		✓	10009233
XS	13 - 19	± 0,25	14	0,5	✓	sb2xsr13,0-19,0
S	16 - 21	± 0,25	15	0,5	✓	sb2sr16,0-21,0
0	20 - 28	± 0,25	21	0,5	✓	sb200r20,0-28,0
1	26 - 38	± 0,25	25	0,5	✓	sb210r26,0-38,0
2	36 - 54	± 0,25	40	0,5	✓	sb220r36,0-54,0
3	50 - 80	± 0,35	44,5	0,5	✓	sb230r50,0-80,0
4	69 - 100	± 0,4	52,5	0,5	✓	sb240r69,0-100,0
5	100 - 130	± 0,5	53	1	-	sb250r100,0-130,0
6	130 - 160	± 0,5	61	1	-	sb260r130,0-160,0
7	160 - 190	± 0,5	63	1	-	sb270r160,0-190,0



SEGMENTED CLAMPING BUSHINGS

Segmented clamping bushings RD

Segmented clamping bushing MANDO T212 / T812 SAD. For machining to size

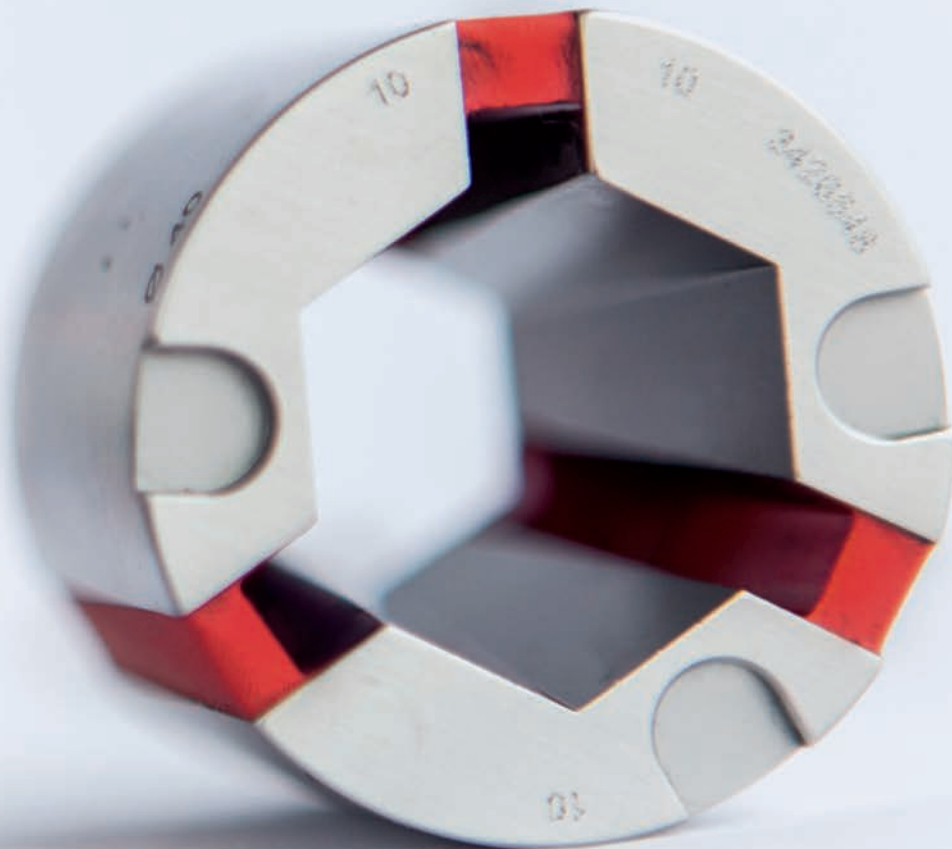
Size	Clamping Ø [mm]	Particularity	At least clamping Ø [mm]	Max. clamping length [mm]	In stock	Material no.
XS	18	Face and clamping surface 50 HRC	13	9	✓	10008259
S	21	Face and clamping surface 50 HRC	16	9,5	✓	10008258
0	24	Face and clamping surface 50 HRC	20	15,5	✓	10008231
	28				✓	10008232
1	32	Face and clamping surface 50 HRC	26	21	✓	10008233
	38				✓	10008234
2	42	Face and clamping surface 50 HRC	36	33	✓	10008235
	48				✓	10008236
	54				✓	10008237
3	56	Face and clamping surface 50 HRC	50	39	✓	10008238
	62				✓	10008239
	70				✓	10008240
	80				✓	10008241
4	76	Face and clamping surface 50 HRC	69	45	✓	10008243
	84				✓	10008244
	92				✓	10008245
	100				✓	10008242
5	106	Face and clamping surface 50 HRC	100	48	✓	10008246
	114				✓	10008247
	122				✓	10008248
	130				✓	10008249
6	136	Face and clamping surface 50 HRC	130	56	✓	10008250
	144				✓	10008252
	152				✓	10008253
	160				✓	10008254
7	170	Face and clamping surface 50 HRC	147	55	✓	10008255
	180				✓	10008256
	190				✓	10008257

Support ring is included free of charge.



Bushings

SE – hexagonal clamping geometry





SEGMENTED CLAMPING BUSHINGS

Segmented clamping bushings SE

The segmented clamping bushing SE with the hexagon socket sits on the clamping pyramid, absolutely form-fitted in every clamping position and thereby enables maximum machining performance with minimal vibration and thus less tool wear. The full-surface contact of the segmented clamping bushing on the mandrel ensures a significantly better insensitivity to contamination than previous segmented clamping bushing/mandrel systems. Therefore, these segmented clamping bushings are even better suited for raw material, cast and forged parts, as well as fine-particle non-ferrous metals such as brass. And they offer this suitability at run-out of ≤ 0.01 mm and in the premium version at ≤ 0.007 mm.

Key advantages

- Run-out accuracy ≤ 0.007 mm possible
- Unique rigidity through pyramid shape
- Resistant to contamination through large-surface contact of the clamping segments
- Active torsional safety
- Longer maintenance intervals

SEGMENTED CLAMPING BUSHINGS

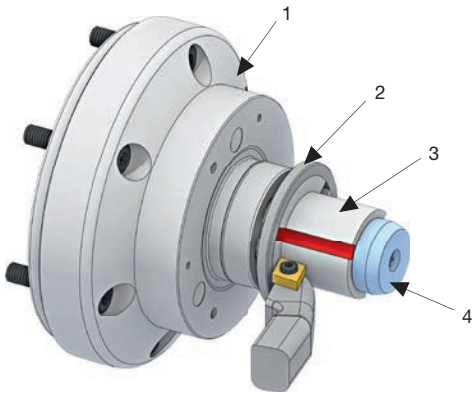
Segmented clamping bushings SE



SE models

	MAXXOS T211 segmented clamping bushing	MAXXOS SAD segmented clamping bushing
		
Applications	Raw material / machined part	For machining to size
Sizes	A, B, C, D, E, F	A, B, C, D, E, F
Clamping range of all sizes [mm]	18 – 100	24 – 100
Clamping surface	Smooth	Smooth
Material condition	60 HRC	60 / 40 HRC
Standard profiles	Round	Round
Special - serration	Coarse toothed [Z] Finely serrated [F]	

Machining the MAXXOS SAD segmented clamping bushing to size

Designation	
1 Mandrel 2 Support ring 3 SAD segmented clamping bushing [reduced hardness of 50 HRC] 4 Draw bolt	



SEGMENTED CLAMPING BUSHINGS

Segmented clamping bushings SE

Segmented clamping bushing MAXXOS T211

Size	Clamping range [mm]	Range / recommended workpiece tolerance [mm]	Max. clamping length [mm]	Increments [mm]	Variant	Run-out ≤ [mm]	In stock	Material no.
A	18 - 24	± 0,15	20	0,5	Standard	0,010	✓	sb1ar18,0-24,0
					Premium	0,007	-	sb1ar18,0-24,0p7
B	20 - 32	± 0,15	20	0,5	Standard	0,010	✓	sb1br20,0-32,0
					Premium	0,007	-	sb1br20,0-32,0p7
C	24 - 39	± 0,25	24	0,5	Standard	0,010	✓	sb1cr24,0-39,0
					Premium	0,007	-	sb1cr24,0-39,0p7
D	32 - 50	± 0,3	35	0,5	Standard	0,010	✓	sb1dr32,0-50,0
					Premium	0,007	-	sb1dr32,0-50,0p7
E	39 - 68	± 0,3	45	0,5	Standard	0,010	✓	sb1er39,0-68,0
					Premium	0,007	-	sb1er39,0-68,0p7
F	50 - 100	± 0,3	45	0,5	Standard	0,010	✓	sb1fr50,0-100,0
					Premium	0,007	-	sb1fr50,0-100,0p7

Segmented clamping bushing MAXXOS T211 SAD. For machining to size

Size	Particularity	Clamping Ø [mm]	At least clamping Ø [mm]	Max. clamping length [mm]	In stock	Material no.
A	Face and clamping surface 40 HRC	24	18	20	✓	10008218
B	Face and clamping surface 40 HRC	27	20	20	✓	10008219
		32			✓	10008220
C	Face and clamping surface 40 HRC	33	24	24	✓	10008221
		39			✓	10008222
D	Face and clamping surface 40 HRC	43	32	35	✓	10008223
		50			✓	10008224
E	Face and clamping surface 40 HRC	58	39	45	✓	10008225
F	Face and clamping surface 40 HRC	63	50	45	✓	10008228
E	Face and clamping surface 40 HRC	68	39	45	✓	10008226
F	Face and clamping surface 40 HRC	81	50	45	✓	10008229
		100			✓	10008227

Support ring is included free of charge.