






Overview

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Mandrels






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PRODUCTS

Mandrels

Standard mandrels in overview

	MANDO T211	MANDO T212	MANDO T812
			
Description	Pull-back / with draw bolt	Pull-back / without draw bolt for blind bores	Deadlength / without draw bolt for pick-off with the sub spindle
Sizes	0, 1, 2, 3, 4, 5, 6, 7	XXS, XS, S, 0, 1, 2, 3, 4, 5, 6, 7	XXS, XS, S, 0, 1, 2, 3, 4
Clamping range of all sizes [mm]	20 – 200	8 – 190	8 – 100
Variant	RD [round]	RD [round]	RD [round]
Advantages	<ul style="list-style-type: none"> ■ Workpiece stabilization through axial draw force applied against the workpiece end-stop ■ Less expensive segmented clamping bushings and end-stops compared to MANDO T212 	<ul style="list-style-type: none"> ■ Workpiece stabilization through axial draw force applied against the workpiece end-stop ■ Clamping without draw bolt, consequently ideal for blind bores 	<ul style="list-style-type: none"> ■ Radial clamping, no pull-back against workpiece end-stop – ideal for pick-off from the main spindle ■ Clamping without draw bolt, consequently ideal for blind bores
Clamping elements	 Segmented clamping bushing RD	 Segmented clamping bushing RD	 Segmented clamping bushing RD
	↓ Page 176	↓ Page 176	↓ Page 176

<p>MANDO G211</p> 	<p>MAXXOS T211</p> 	<p>Actuating unit ms dock and hs dock</p> 
<p>Pull-back / with draw bolt for gear hobbing, shaping and grinding</p>	<p>Pull-back / with draw bolt for the highest accuracy and process reliability</p>	<p>Actuating unit for stationary mandrel clamping</p>
<p>0, 1, 2, 3, 4</p>	<p>A, B, C, D, E, F</p>	<p>XXS – 7 / A – F</p>
<p>20 – 120</p>	<p>18 – 100</p>	<p>8 – 200</p>
<p>RD [round]</p>	<p>SE [hexagonal]</p>	<p>Manual, hydraulic</p>
<ul style="list-style-type: none"> ■ Standard segmented mandrel with slim interference contour ■ Rigid radial clamping with pull-back effect ■ Large clamping range and vibration dampening due to vulcanized clamping elements ■ Three end-stop levels 	<ul style="list-style-type: none"> ■ I.D. clamping mandrel for clamping diameter 18 mm to 100 mm, in stock ■ High transferable torques and holding forces ■ Reduced tool wear through high rigidity ■ Run-out accuracy ≤ 0.01 mm / 0.007 mm possible 	<ul style="list-style-type: none"> ■ Mandrels can be used on machining center ■ ms dock rotating for lathes without clamping cylinder ■ Manual / hydraulic mandrel actuation ■ Ideal for 5-sided machining
 <p>Segmented clamping bushing RD</p>	 <p>Segmented clamping bushing SE</p>	
<p>↓ Page 210</p>	<p>↓ Page 214</p>	<p>↓ Page 226</p>



MANDO

Efficient and economical





Often complete machining fails for lack of an effective I.D. clamping device. In many cases the jaw chuck is a makeshift solution. However, even conventional mandrels with slotted clamping sleeves quickly reach their limits in terms of accuracy, rigidity, and opening stroke. HAINBUCH segmented mandrels use state-of-the-art clamping technology that is convincing, even in the most critical applications.

The central element is the vulcanized segmented clamping bushing. Because conventional clamping bushings are made of spring steel and are only annealed to spring hardness, they are »soft« and they must »bend« to clamp the workpiece. HAINBUCH segmented bushings, on the other hand, are made of case-hardened chromium-nickel-steel and have segments that are extremely hard, wear resistant and rigid. All contact surfaces are completely ground in one operation guaranteeing optimum run-out accuracy.

Key advantages

- Extremely high clamping force even at the smallest clamping \varnothing
- Clamping range \varnothing 8 – 200 mm
- Large clamping range and vibration dampening due to vulcanized clamping elements
- Standard segmented clamping bushings and workpiece end-stops for machining to size available



Mandrel MANDO T211 in use



MANDO segmented mandrels at a glance

	MANDO T211	MANDO T212	MANDO T812
Description	Pull-back / with draw bolt	Pull-back / without draw bolt for blind bores	Deadlength / without draw bolt for pick-off with the sub spindle
Sizes	0, 1, 2, 3, 4, 5, 6, 7	XXS, XS, S, 0, 1, 2, 3, 4, 5, 6, 7	XXS, XS, S, 0, 1, 2, 3, 4
Clamping range of all sizes [mm]	20 – 200	8 – 190	8 – 100
Actuation	Draw	Draw	Pressure
Advantages	<ul style="list-style-type: none"> ■ Workpiece stabilization through axial draw force applied against the workpiece end-stop ■ Less expensive segmented clamping bushings and end-stops compared to MANDO T212 	<ul style="list-style-type: none"> ■ Workpiece stabilization through axial draw force applied against the workpiece end-stop ■ Clamping without draw bolt, consequently ideal for blind bores 	<ul style="list-style-type: none"> ■ Radial clamping, no pull-back against workpiece end-stop – ideal for pick-off from the main spindle ■ Clamping without draw bolt, consequently ideal for blind bores
Clamping elements	Segmented clamping bushing RD	Segmented clamping bushing RD	Segmented clamping bushing RD

MANDO T211 in detail

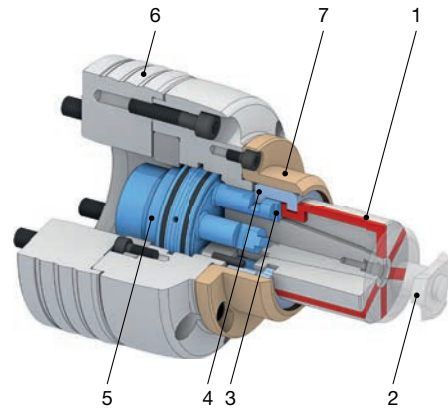
Designation	
<ol style="list-style-type: none"> 1 Vulcanized segmented clamping bushing made of case-hardened steel [60 HRC] 2 Draw bolt [with safeguard to prevent unscrewing when in open position] 3 End-stop 4 Integrated ejector pins for forced opening of the clamping 5 Spindle flange suitable for all standard mandrel sizes 6 Torsional safety lock of segmented clamping bushing 	



MANDO T212 in detail

Designation

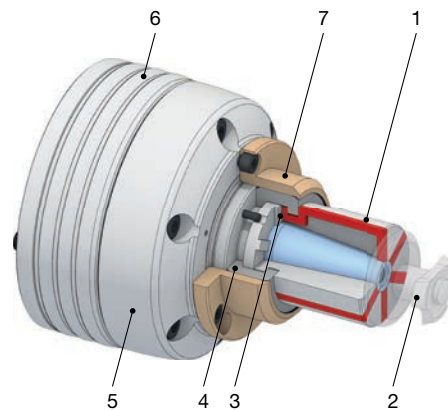
- 1 Vulcanized segmented clamping bushing made of case-hardened steel [60 HRC]
- 2 Installation aid, recommended for vertical machines from mandrel size 2 and up
- 3 Torsional safety lock of segmented clamping bushing
- 4 Coupling ring for fast changing of the segmented clamping bushing
- 5 Crown-coupling
- 6 Spindle flange suitable for all standard mandrel sizes
- 7 End-stop



MANDO T812 in detail

Designation

- 1 Vulcanized segmented clamping bushing made of case-hardened steel [60 HRC]
- 2 Installation aid, recommended for vertical machines from mandrel size 2 and up
- 3 Torsional safety lock of segmented clamping bushing
- 4 Coupling ring for fast changing of the segmented clamping bushing
- 5 Mandrel body including coupling
- 6 Spindle flange suitable for all standard mandrel sizes
- 7 End-stop





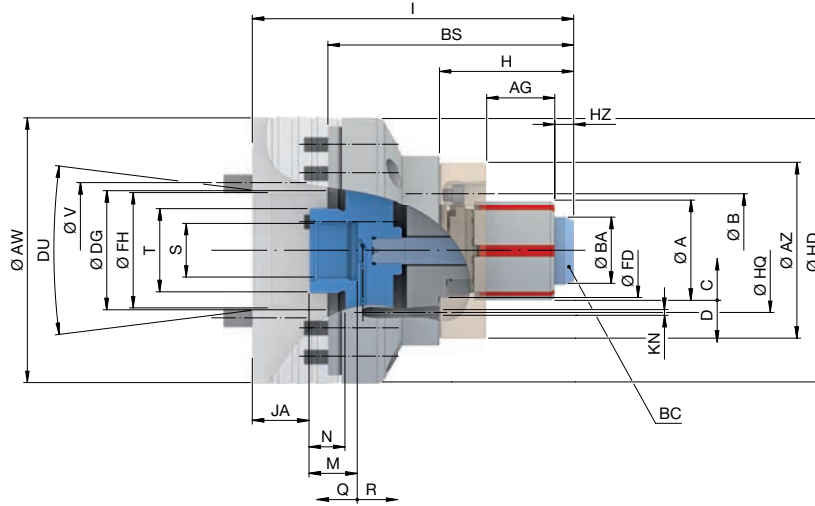
Order overview. MANDO mandrels

Product	Size	Clamping range [mm]	In stock	Material no.
MANDO T211	0	20 – 28	✓	10001871
	1	26 – 38	✓	10001872
	2	36 – 54	✓	10001873
	3	50 – 80	✓	10001874
	4	69 – 120	✓	10001876
	5	100 – 130	✓	10001870
	6	130 – 160	✓	10001882
	7	160 – 200	✓	10001883
MANDO T212	XXS	8 – 13	✓	10001890
	XS	13 – 19	✓	10001891
	S	16 – 21	✓	10001892
	0	20 – 28	✓	10001893
	1	26 – 38	✓	10001894
	2	36 – 54	✓	10001895
	3	50 – 80	✓	10001896
	4	69 – 100	✓	10001897
	5	100 – 130	✓	10001888
	6	130 – 160	✓	10001889
7	160 – 190	✓	10001906	
MANDO T812	XXS	8 – 13	✓	10000545
	XS	13 – 19	✓	10000546
	S	16 – 21	✓	10000547
	0	20 – 28	✓	10000548
	1	26 – 38	✓	10000549
	2	36 – 54	✓	10000550
	3	50 – 80	✓	10000551
	4	69 – 100	✓	10000552

Mandrels without spindle flange.



MANDO T211 size 0. Technical data



Size	0								
Clamping range [mm]	A	20 – 28							
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Run-out ≤ [mm]		0,010							
Max. radial clamping force [kN]		42							
Max. axial drawtube force [pull / push] [kN]		10							
Max. clamping length [mm]	AG	22							
Reserve stroke in Ø [mm]	D	0,3							
Release stroke in Ø [mm]	C	0,4							
RPM n max. [1/min.]		7000							
Reserve stroke axial [mm]	Q	1,5							
Release stroke axial [mm]	R	2							
Max. actuating torque [Nm]	BC	10							
Draw bolt Ø [mm]	BA	19							
Draw bolt head height [mm]	HZ	7,5							
Reception workpiece end-stop	FD	Ø 32 f7							
End-stop outer Ø [mm]	AZ	65							
Bolt hole circle end-stop	B	LK Ø 50 [3 x M6]							
Length [mm]	H	40							
Length 2 [mm]	BS	100							
Total length [mm]	I	140		144		140			
Connecting thread inside	S	M30 x 1,5							
Connecting thread outside	T	M44 x 1,5							
Distance [mm]	JA	30		34		30			
Depth of thread [mm]	M	25,5							
Thread length [mm]	N	19							
Max. drawtube Ø [mm]	DG	54							
Minimum length of DG [mm]		13							
Bore-Ø	FH	61	79,6	103,2	100	77	80	103	
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]
Outer Ø [mm]	AW	140		165	210	140	150	180	230
Outer Ø 2 [mm]	HD	139							
Air sensing control bolt hole circle-Ø [mm]	HQ	64							
Air sensing control bore Ø [mm]	KN	3							
Central air sensing connection Ø optional [mm]		12 H7							
Weight [kg]		8,5	7,9	8,9	13,7	8,1	8,7	10,5	16

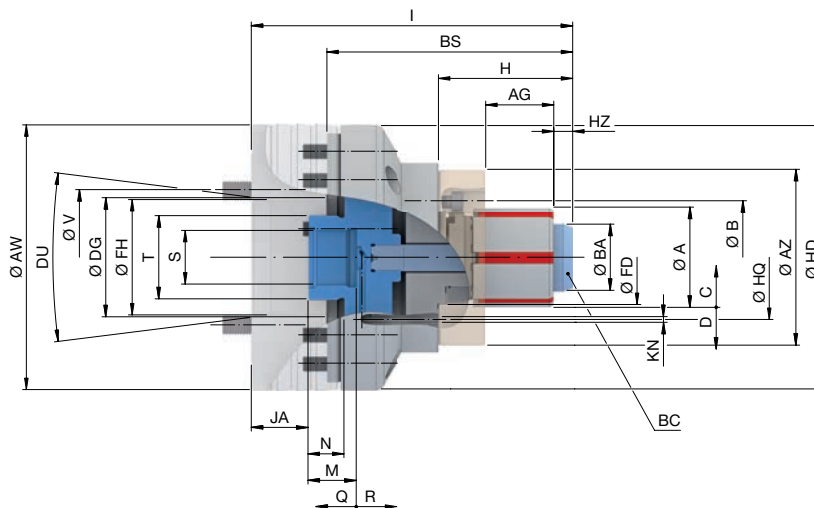


Scope of delivery

- Mandrel without spindle flange / without air sensing adapter
- Draw bolt



MANDO T211 size 1. Technical data



Size	1								
Clamping range [mm]	A	26 – 38							
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Run-out ≤ [mm]		0,010							
Max. radial clamping force [kN]		42							
Max. axial drawtube force [pull / push] [kN]		10							
Max. clamping length [mm]	AG	26							
Reserve stroke in Ø [mm]	D	0,3							
Release stroke in Ø [mm]	C	0,4							
RPM n max. [1/min.]		7000							
Reserve stroke axial [mm]	Q	1,5							
Release stroke axial [mm]	R	2							
Max. actuating torque [Nm]	BC	20							
Draw bolt Ø [mm]	BA	25							
Draw bolt head height [mm]	HZ	11							
Reception workpiece end-stop	FD	Ø 41 f7							
End-stop outer Ø [mm]	AZ	69							
Bolt hole circle end-stop	B	LK Ø 55 [3 x M6]							
Length [mm]	H	51							
Length 2 [mm]	BS	110							
Total length [mm]	I	150		154			150		
Connecting thread inside	S	M30 x 1,5							
Connecting thread outside	T	M44 x 1,5							
Distance [mm]	JA	30			34		30		
Depth of thread [mm]	M	25,5							
Thread length [mm]	N	19							
Max. drawtube Ø [mm]	DG	54							
Minimum length of DG [mm]		13							
Bore-Ø	FH	61	79,6	103,2	100	77	80	103	
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]
Outer Ø [mm]	AW	140		165	210	140	150	180	230
Outer Ø 2 [mm]	HD	139							
Air sensing control bolt hole circle-Ø [mm]	HQ	64							
Air sensing control bore Ø [mm]	KN	3							
Central air sensing connection Ø optional [mm]		12 H7							
Weight [kg]		8,6	8	9	13,8	8,2	8,8	10,6	16,1

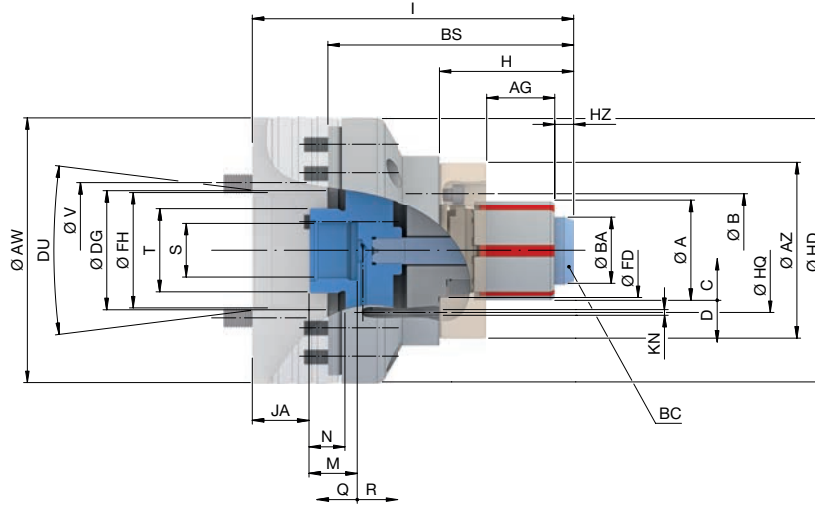


Scope of delivery

- Mandrel without spindle flange / without air sensing adapter
- Draw bolt



MANDO T211 size 2. Technical data



Size	2								
Clamping range [mm]	A	36 – 54							
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Run-out ≤ [mm]		0,010							
Max. radial clamping force [kN]		85							
Max. axial drawtube force [pull / push] [kN]		20							
Max. clamping length [mm]	AG	43							
Reserve stroke in Ø [mm]	D	0,3							
Release stroke in Ø [mm]	C	0,5							
RPM n max. [1/min.]		7000							
Reserve stroke axial [mm]	Q	1,5							
Release stroke axial [mm]	R	2,5							
Max. actuating torque [Nm]	BC	25							
Draw bolt Ø [mm]	BA	35							
Draw bolt head height [mm]	HZ	10							
Reception workpiece end-stop	FD	Ø 50 f7							
End-stop outer Ø [mm]	AZ	93							
Bolt hole circle end-stop	B	LK Ø 78 [3 x M6]							
Length [mm]	H	71							
Length 2 [mm]	BS	130							
Total length [mm]	I	170		174		170			
Connecting thread inside	S	M30 x 1,5							
Connecting thread outside	T	M44 x 1,5							
Distance [mm]	JA	30		34		30			
Depth of thread [mm]	M	25,5							
Thread length [mm]	N	19							
Max. drawtube Ø [mm]	DG	54							
Minimum length of DG [mm]		13							
Bore-Ø	FH	61	79,6	103,2	100	77	80	103	
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]
Outer Ø [mm]	AW	140		165	210	140	150	180	230
Outer Ø 2 [mm]	HD	139							
Air sensing control bolt hole circle-Ø [mm]	HQ	76							
Air sensing control bore Ø [mm]	KN	3							
Central air sensing connection Ø optional [mm]		12 H7							
Weight [kg]		9,3	8,7	9,7	14,5	8,9	9,5	11,3	16,8

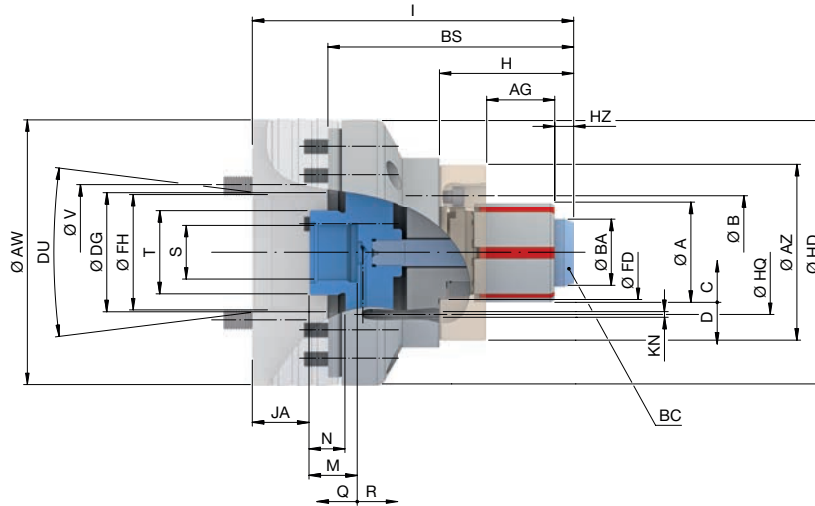


Scope of delivery

- Mandrel without spindle flange / without air sensing adapter
- Draw bolt



MANDO T211 size 3. Technical data



Size	3								
Clamping range [mm]	A	50 – 80							
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Run-out ≤ [mm]		0,010							
Max. radial clamping force [kN]		105							
Max. axial drawtube force [pull / push] [kN]		25							
Max. clamping length [mm]	AG	49							
Reserve stroke in Ø [mm]	D	0,4							
Release stroke in Ø [mm]	C	0,5							
RPM n max. [1/min.]		6000							
Reserve stroke axial [mm]	Q	2							
Release stroke axial [mm]	R	2,5							
Max. actuating torque [Nm]	BC	55							
Draw bolt Ø [mm]	BA	49							
Draw bolt head height [mm]	HZ	11							
Reception workpiece end-stop	FD	Ø 65 f7							
End-stop outer Ø [mm]	AZ	96							
Bolt hole circle end-stop	B	LK Ø 80 [3 x M6]							
Length [mm]	H	78							
Length 2 [mm]	BS	140							
Total length [mm]	I	180		184		180			
Connecting thread inside	S	M30 x 1,5							
Connecting thread outside	T	M44 x 1,5							
Distance [mm]	JA	30		34		30			
Depth of thread [mm]	M	25,5							
Thread length [mm]	N	19							
Max. drawtube Ø [mm]	DG	54							
Minimum length of DG [mm]		13							
Bore-Ø	FH	61	79,6	103,2	100	77	80	103	
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]
Outer Ø [mm]	AW	140		165		210		140	150
Outer Ø 2 [mm]	HD	139							
Air sensing control bolt hole circle-Ø [mm]	HQ	78							
Air sensing control bore Ø [mm]	KN	3							
Central air sensing connection Ø optional [mm]		12 H7							
Weight [kg]		10,1	9,5	10,5	15,3	9,7	10,3	12,1	17,6

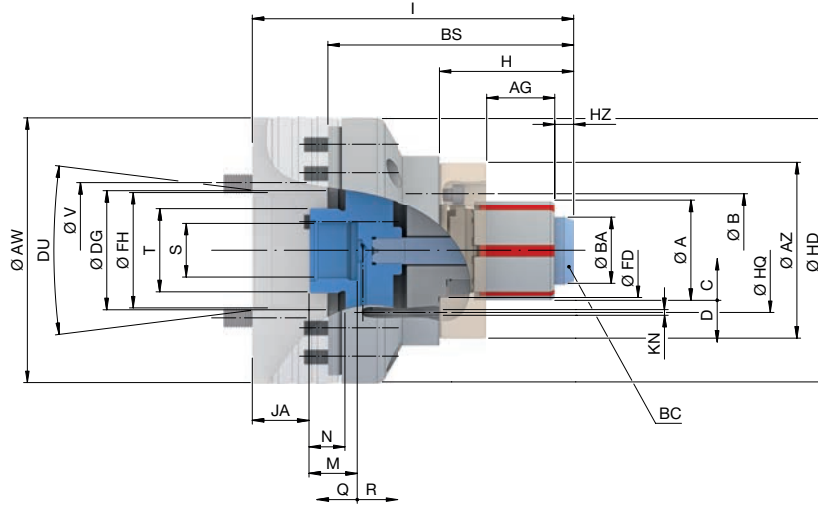


Scope of delivery

- Mandrel without spindle flange / without air sensing adapter
- Draw bolt



MANDO T211 size 4. Technical data



Size	4								
Clamping range [mm]	A	69 – 120							
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Run-out ≤ [mm]		0,010							
Max. radial clamping force [kN]		150							
Max. axial drawtube force [pull / push] [kN]		35							
Max. clamping length [mm]	AG	59							
Reserve stroke in Ø [mm]	D	0,5							
Release stroke in Ø [mm]	C	0,6							
RPM n max. [1/min.]		6000							
Reserve stroke axial [mm]	Q	2,5							
Release stroke axial [mm]	R	3							
Max. actuating torque [Nm]	BC	55							
Draw bolt Ø [mm]	BA	68							
Draw bolt head height [mm]	HZ	16							
Reception workpiece end-stop	FD	Ø 78 f7							
End-stop outer Ø [mm]	AZ	100							
Bolt hole circle end-stop	B	LK Ø 90 [3 x M6]							
Length [mm]	H	98							
Length 2 [mm]	BS	155							
Total length [mm]	I	195			199		195		
Connecting thread inside	S	M30 x 1,5							
Connecting thread outside	T	M44 x 1,5							
Distance [mm]	JA	30			34		30		
Depth of thread [mm]	M	27							
Thread length [mm]	N	19							
Max. drawtube Ø [mm]	DG	60							
Minimum length of DG [mm]	FH	13							
Bore-Ø	FH	61	79,6	103,2	100	77	80	103	
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]
Outer Ø [mm]	AW	140		165		140		150	
Outer Ø 2 [mm]	HD	139							
Air sensing control bolt hole circle-Ø [mm]	HQ	91							
Air sensing control bore Ø [mm]	KN	3							
Central air sensing connection Ø optional [mm]		12 H7							
Weight [kg]		11,3	10,7	11,7	16,5	10,9	11,5	13,3	18,8

For size 4, clamping range 101 - 120 mm, a max. speed of 4200 RPM applies.

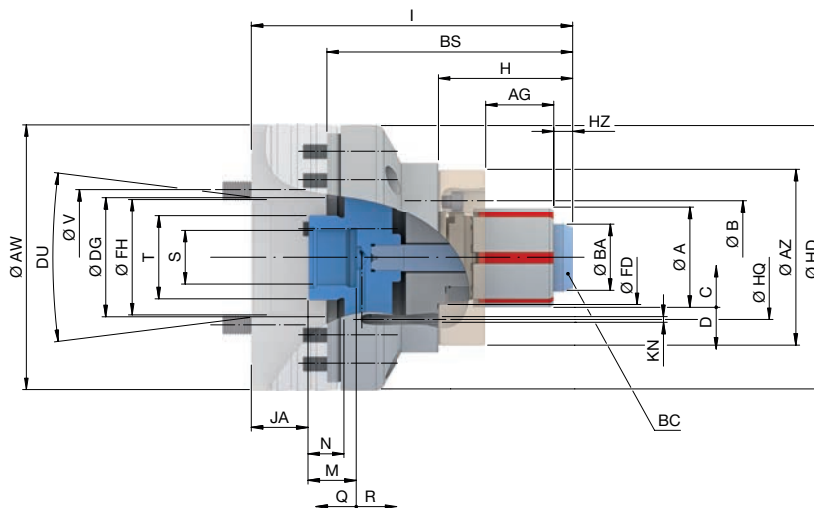
Segmented clamping bushings Page 442	Flanges Page 208	Actuating units Page 226	Accessory overview Page 478

Scope of delivery

- Mandrel without spindle flange / without air sensing adapter
- Draw bolt



MANDO T211 size 5. Technical data



Size	5			
Clamping range [mm]	A			
	100 – 130			
Spindle nose	DU	A2-6	A2-8	A2-11
Run-out ≤ [mm]			0,010	
Max. radial clamping force [kN]			170	
Max. axial drawtube force [pull / push] [kN]			40	
Max. clamping length [mm]	AG		86	
Reserve stroke in Ø [mm]	D		0,6	
Release stroke in Ø [mm]	C		0,6	
RPM n max. [1/min.]			5000	
Reserve stroke axial [mm]	Q		3	
Release stroke axial [mm]	R		3	
Max. actuating torque [Nm]	BC		65	
Draw bolt Ø [mm]	BA		97	
Draw bolt head height [mm]	HZ		16	
Reception workpiece end-stop	FD		Ø 102 f7	
End-stop outer Ø [mm]	AZ		150	
Bolt hole circle end-stop	B		LK Ø 117 [3 x M6]	
Length [mm]	H		120	
Length 2 [mm]	BS		195	
Total length [mm]	I	258,5	262,5	268,5
Connecting thread inside	S		M30 x 1,5	
Connecting thread outside	T		M44 x 1,5	
Distance [mm]	JA	53,5	57,5	63,5
Depth of thread [mm]	M		25,5	
Thread length [mm]	N		19	
Max. drawtube Ø [mm]	DG		97	
Minimum length of DG [mm]			12	
Bore-Ø	FH	103,2	136,2	155
Bolt hole circle	V	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 235 [6 x M20]
Outer Ø [mm]	AW		235	280
Outer Ø 2 [mm]	HD		230	
Air sensing control bolt hole circle-Ø [mm]	HQ		116	
Air sensing control bore Ø [mm]	KN		3	
Weight [kg]		36	35	45

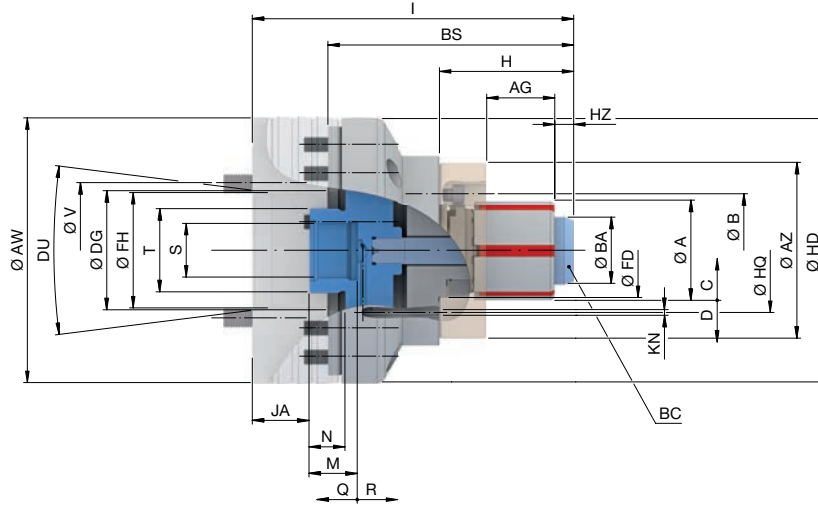


Scope of delivery

- Mandrel without spindle flange / without air sensing adapter
- Draw bolt



MANDO T211 size 6. Technical data



Size	6			
Clamping range [mm]	A 130 – 160			
Spindle nose	DU	A2-6	A2-8	A2-11
Run-out ≤ [mm]			0,010	
Max. radial clamping force [kN]			170	
Max. axial drawtube force [pull / push] [kN]			40	
Max. clamping length [mm]	AG		96	
Reserve stroke in Ø [mm]	D		0,6	
Release stroke in Ø [mm]	C		0,6	
RPM n max. [1/min.]			4000	
Reserve stroke axial [mm]	Q		3	
Release stroke axial [mm]	R		3	
Max. actuating torque [Nm]	BC		65	
Draw bolt Ø [mm]	BA		125	
Draw bolt head height [mm]	HZ		25	
Reception workpiece end-stop	FD		Ø 132 f7	
End-stop outer Ø [mm]	AZ		180	
Bolt hole circle end-stop	B		LK Ø 148 [3 x M6]	
Length [mm]	H		137	
Length 2 [mm]	BS		220	
Total length [mm]	I	283,5	287,5	293,5
Connecting thread inside	S		M30 x 1,5	
Connecting thread outside	T		M44 x 1,5	
Distance [mm]	JA	53,5	57,5	63,5
Depth of thread [mm]	M		25,5	
Thread length [mm]	N		19	
Max. drawtube Ø [mm]	DG		120	
Minimum length of DG [mm]			12	
Bore-Ø	FH	103,2	136,2	155
Bolt hole circle	V	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 235 [6 x M20]
Outer Ø [mm]	AW		235	280
Outer Ø 2 [mm]	HD		230	
Air sensing control bolt hole circle-Ø [mm]	HQ		146	
Air sensing control bore Ø [mm]	KN		3	
Weight [kg]		43		53

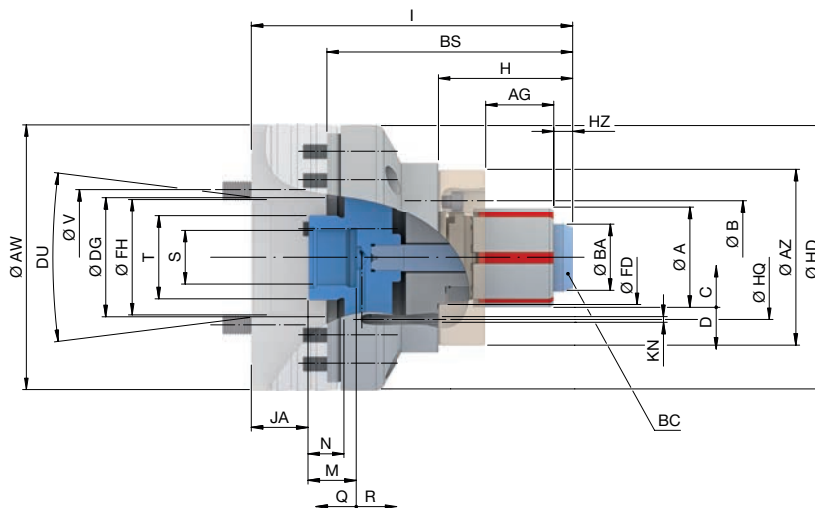


Scope of delivery

- Mandrel without spindle flange / without air sensing adapter
- Draw bolt



MANDO T211 size 7. Technical data



Size	7			
Clamping range [mm]	A	160 – 200		
Spindle nose	DU	A2-6	A2-8	A2-11
Run-out ≤ [mm]			0,020	
Max. radial clamping force [kN]			170	
Max. axial drawtube force [pull / push] [kN]			45	
Max. clamping length [mm]	AG		94	
Reserve stroke in Ø [mm]	D		0,6	
Release stroke in Ø [mm]	C		0,8	
RPM n max. [1/min.]			3200	
Reserve stroke axial [mm]	Q		3	
Release stroke axial [mm]	R		3	
Max. actuating torque [Nm]	BC		65	
Draw bolt Ø [mm]	BA		156	
Draw bolt head height [mm]	HZ		29,5	
Reception workpiece end-stop	FD		Ø 162 f7	
End-stop outer Ø [mm]	AZ		220	
Bolt hole circle end-stop	B		LK Ø 177 [3 x M8]	
Length [mm]	H		155	
Length 2 [mm]	BS		245	
Total length [mm]	I	308,5	312,5	318,5
Connecting thread inside	S		M30 x 1,5	
Connecting thread outside	T		M44 x 1,5	
Distance [mm]	JA	53,5	57,5	63,5
Depth of thread [mm]	M		25,5	
Thread length [mm]	N		19	
Max. drawtube Ø [mm]	DG		140	
Minimum length of DG [mm]			12	
Bore-Ø	FH	103,2	136,2	155
Bolt hole circle	V	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 235 [6 x M20]
Outer Ø [mm]	AW	235		280
Outer Ø 2 [mm]	HD		230	
Air sensing control bolt hole circle-Ø [mm]	HQ		175	
Air sensing control bore Ø [mm]	KN		3	
Weight [kg]		55	54	64

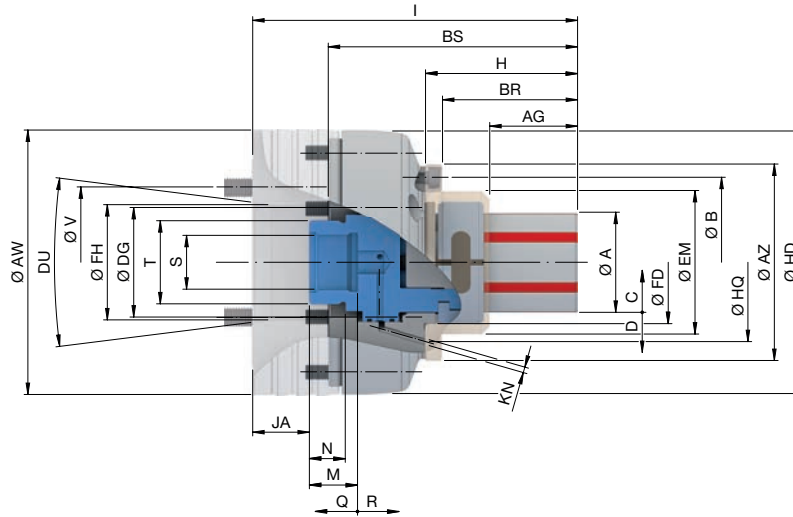


Scope of delivery

- Mandrel without spindle flange / without air sensing adapter
- Draw bolt



MANDO T212 size XXS. Technical data



Size	XXS								
Clamping range [mm]	A	8 – 13							
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Run-out ≤ [mm]		0,020							
Max. radial clamping force [kN]		42							
Max. axial drawtube force [pull / push] [kN]		10							
Max. clamping length [mm]	AG	12,9							
Reserve stroke in Ø [mm]	D	0,2							
Release stroke in Ø [mm]	C	0,2							
RPM n max. [1/min.]		7000							
Reserve stroke axial [mm]	Q	1,5							
Release stroke axial [mm]	R	1,5							
Reception workpiece end-stop	FD	Ø 34 f7							
End-stop outer Ø [mm]	AZ	65							
End-stop outer Ø 2 [mm]	EM	41							
Bolt hole circle end-stop	B	LK Ø 53 [3 x M5]							
Length [mm]	H	45,5							
Length 2 [mm]	BS	100,5							
Total length [mm]	I	140,5			144,5		140		
Depth [mm]	BR	36,50							
Connecting thread inside	S	M30 x 1,5							
Connecting thread outside	T	M44 x 1,5							
Distance [mm]	JA	30			34		30		
Depth of thread [mm]	M	25,5							
Thread length [mm]	N	19							
Max. drawtube Ø [mm]	DG	54							
Minimum length of DG [mm]		13							
Bore-Ø	FH	61	79,6	103,2	100	77	80	103	
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]
Outer Ø [mm]	AW	140			210		140	150	
Outer Ø 2 [mm]	HD	139							
Air sensing control bolt hole circle-Ø [mm]	HQ	56							
Air sensing control bore Ø [mm]	KN	3							
Central air sensing connection Ø optional [mm]		12 H7							
Weight [kg]		9,1	8,5	9,5	14,3	8,7	9,3	11,1	16,6

Please note: The maximum clamping length [AG] varies from 6 to 12.9 mm depending on the clamping diameter.

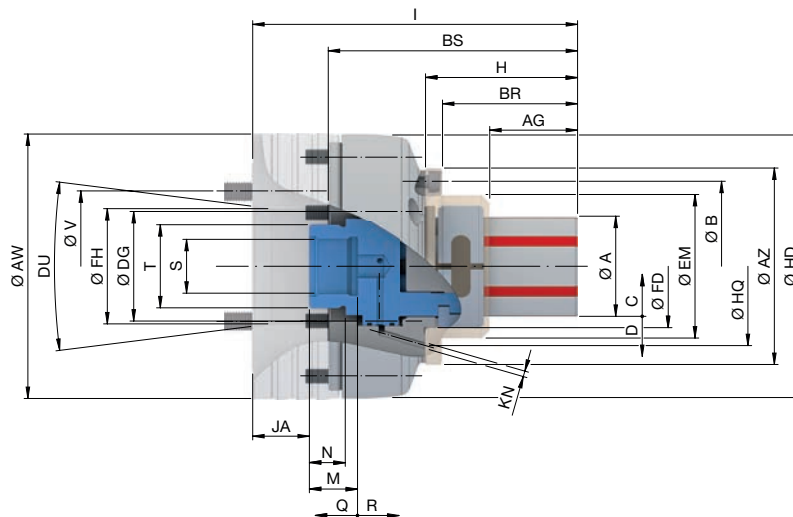
Segmented clamping bushings Page 442	Flanges Page 208	Actuating units Page 226	Accessory overview Page 478

Scope of delivery

- Mandrel without spindle flange / without air sensing adapter
- Coupling ring
- Mounting aid depending on size



MANDO T212 size XS. Technical data



Size	XS								
Clamping range [mm]	A	13 – 19							
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Run-out ≤ [mm]		0,020							
Max. radial clamping force [kN]		42							
Max. axial drawtube force [pull / push] [kN]		10							
Max. clamping length [mm]	AG	14							
Reserve stroke in Ø [mm]	D	0,3							
Release stroke in Ø [mm]	C	0,4							
RPM n max. [1/min.]		7000							
Reserve stroke axial [mm]	Q	1,5							
Release stroke axial [mm]	R	2							
Reception workpiece end-stop	FD	Ø 36 f7							
End-stop outer Ø [mm]	AZ	65							
End-stop outer Ø 2 [mm]	EM	42							
Bolt hole circle end-stop	B	LK Ø 53 [3 x M5]							
Length [mm]	H	40							
Length 2 [mm]	BS	95							
Total length [mm]	I	135		139		135			
Depth [mm]	BR	36,50							
Connecting thread inside	S	M30 x 1,5							
Connecting thread outside	T	M44 x 1,5							
Distance [mm]	JA	30		34		30			
Depth of thread [mm]	M	25,5							
Thread length [mm]	N	19							
Max. drawtube Ø [mm]	DG	54							
Minimum length of DG [mm]		13							
Bore-Ø	FH	61	79,6	103,2	100	77	80	103	
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]
Outer Ø [mm]	AW	140		165		140		150	
Outer Ø 2 [mm]	HD	139							
Air sensing control bolt hole circle-Ø [mm]	HQ	56							
Air sensing control bore Ø [mm]	KN	3							
Central air sensing connection Ø optional [mm]		12 H7							
Weight [kg]		8,7	8,1	9,1	13,9	8,3	8,9	10,7	16,2

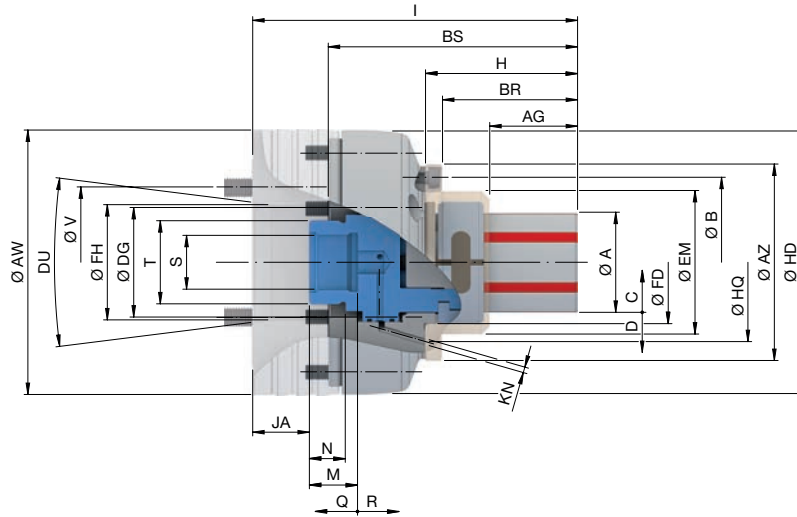


Scope of delivery

- Mandrel without spindle flange / without air sensing adapter
- Coupling ring
- Trimming sleeve for SAD segmented clamping bushings
- Mounting aid depending on size



MANDO T212 size S. Technical data



Size	S								
Clamping range [mm]	A	16 – 21							
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Run-out ≤ [mm]		0,020							
Max. radial clamping force [kN]		42							
Max. axial drawtube force [pull / push] [kN]		10							
Max. clamping length [mm]	AG	15							
Reserve stroke in Ø [mm]	D	0,3							
Release stroke in Ø [mm]	C	0,4							
RPM n max. [1/min.]		7000							
Reserve stroke axial [mm]	Q	1,5							
Release stroke axial [mm]	R	2							
Reception workpiece end-stop	FD	Ø 39 f7							
End-stop outer Ø [mm]	AZ	70							
End-stop outer Ø 2 [mm]	EM	45							
Bolt hole circle end-stop	B	LK Ø 57 [3 x M5]							
Length [mm]	H	47,5							
Length 2 [mm]	BS	97							
Total length [mm]	I	137		141		137			
Depth [mm]	BR	38,00							
Connecting thread inside	S	M30 x 1,5							
Connecting thread outside	T	M44 x 1,5							
Distance [mm]	JA	30		34		30			
Depth of thread [mm]	M	25,5							
Thread length [mm]	N	19							
Max. drawtube Ø [mm]	DG	54							
Minimum length of DG [mm]		13							
Bore-Ø	FH	61	79,6	103,2	100	77	80	103	
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]
Outer Ø [mm]	AW	140		165		140		150	
Outer Ø 2 [mm]	HD	139							
Air sensing control bolt hole circle-Ø [mm]	HQ	60							
Air sensing control bore Ø [mm]	KN	3							
Central air sensing connection Ø optional [mm]		12 H7							
Weight [kg]		8,8	8,2	9,2	14	8,4	9	10,8	16,3

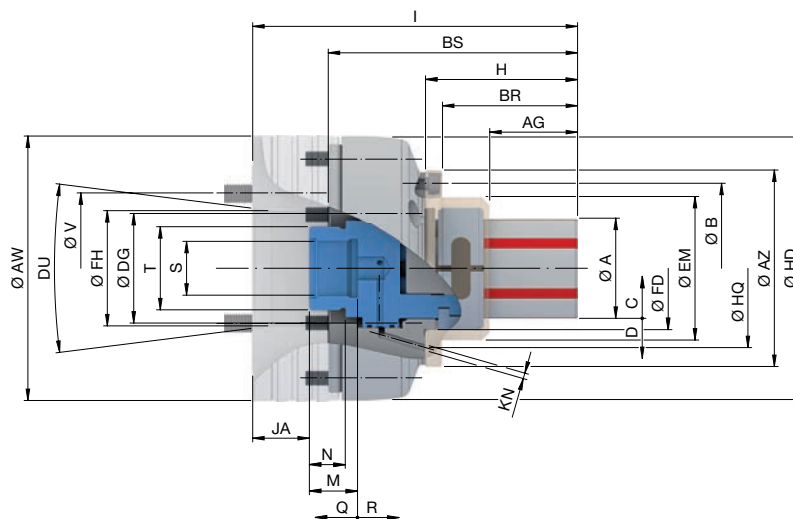


Scope of delivery

- Mandrel without spindle flange / without air sensing adapter
- Coupling ring
- Trimming sleeve for SAD segmented clamping bushings
- Mounting aid depending on size



MANDO T212 size 0. Technical data



Size	0								
Clamping range [mm]	A	20 – 28							
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Run-out ≤ [mm]		0,010							
Max. radial clamping force [kN]		42							
Max. axial drawtube force [pull / push] [kN]		10							
Max. clamping length [mm]	AG	21							
Reserve stroke in Ø [mm]	D	0,3							
Release stroke in Ø [mm]	C	0,4							
RPM n max. [1/min.]		7000							
Reserve stroke axial [mm]	Q	1,5							
Release stroke axial [mm]	R	2							
Reception workpiece end-stop	FD	Ø 47 f7							
End-stop outer Ø [mm]	AZ	90							
End-stop outer Ø 2 [mm]	EM	54							
Bolt hole circle end-stop	B	LK Ø 70 [3 x M6]							
Length [mm]	H	58,5							
Length 2 [mm]	BS	108							
Total length [mm]	I	148		152		148			
Depth [mm]	BR	44							
Connecting thread inside	S	M30 x 1,5							
Connecting thread outside	T	M44 x 1,5							
Distance [mm]	JA	30		34		30			
Depth of thread [mm]	M	25,5							
Thread length [mm]	N	19							
Max. drawtube Ø [mm]	DG	54							
Minimum length of DG [mm]		13							
Bore-Ø	FH	61	79,6	103,2	100	77	80	103	
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]
Outer Ø [mm]	AW	140		165		140		150	
Outer Ø 2 [mm]	HD	139							
Air sensing control bolt hole circle-Ø [mm]	HQ	70							
Air sensing control bore Ø [mm]	KN	3							
Central air sensing connection Ø optional [mm]		12 H7							
Weight [kg]		9,5	8,9	9,9	14,7	9,1	9,7	11,5	17

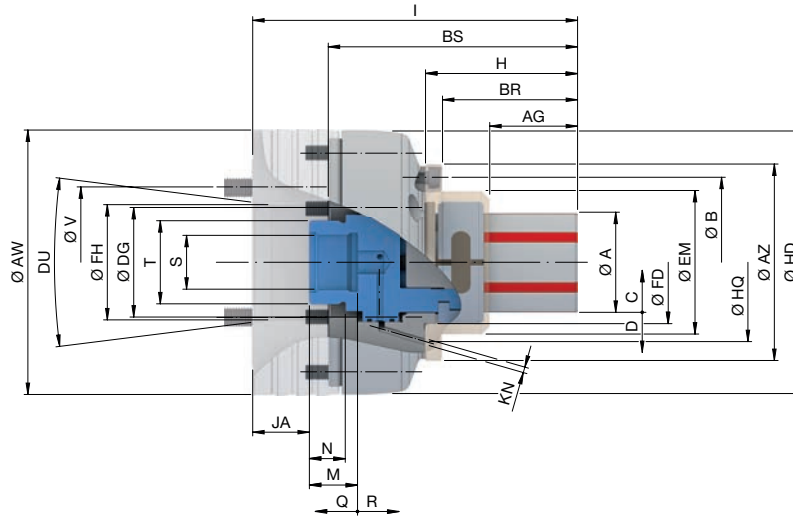


Scope of delivery

- Mandrel without spindle flange / without air sensing adapter
- Coupling ring
- Trimming sleeve for SAD segmented clamping bushings
- Mounting aid depending on size



MANDO T212 size 1. Technical data



Size	1								
Clamping range [mm]	A	26 – 38							
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Run-out ≤ [mm]		0,010							
Max. radial clamping force [kN]		42							
Max. axial drawtube force [pull / push] [kN]		10							
Max. clamping length [mm]	AG	25							
Reserve stroke in Ø [mm]	D	0,3							
Release stroke in Ø [mm]	C	0,4							
RPM n max. [1/min.]		7000							
Reserve stroke axial [mm]	Q	1,5							
Release stroke axial [mm]	R	2							
Reception workpiece end-stop	FD	Ø 55 f7							
End-stop outer Ø [mm]	AZ	90							
End-stop outer Ø 2 [mm]	EM	62							
Bolt hole circle end-stop	B	LK Ø 75 [3 x M6]							
Length [mm]	H	64,5							
Length 2 [mm]	BS	114							
Total length [mm]	I	154			159		154		
Depth [mm]	BR	47							
Connecting thread inside	S	M30 x 1,5							
Connecting thread outside	T	M44 x 1,5							
Distance [mm]	JA	30			34		30		
Depth of thread [mm]	M	25,5							
Thread length [mm]	N	19							
Max. drawtube Ø [mm]	DG	54							
Minimum length of DG [mm]		13							
Bore-Ø	FH	61	79,6	103,2	100	77	80	103	
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]
Outer Ø [mm]	AW	140		165		140		150	
Outer Ø 2 [mm]	HD	139							
Air sensing control bolt hole circle-Ø [mm]	HQ	70							
Air sensing control bore Ø [mm]	KN	3							
Central air sensing connection Ø optional [mm]		12 H7							
Weight [kg]		9,5	8,9	9,9	14,7	9,1	9,7	11,5	17

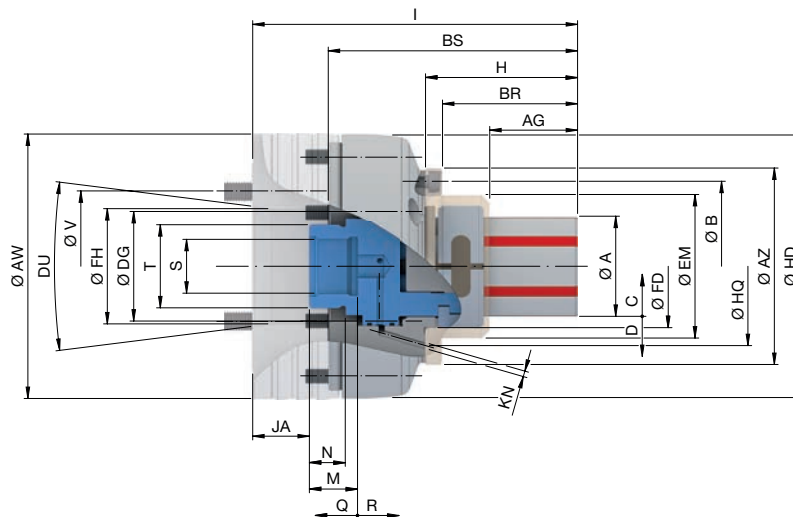


Scope of delivery

- Mandrel without spindle flange / without air sensing adapter
- Coupling ring
- Trimming sleeve for SAD segmented clamping bushings
- Mounting aid depending on size



MANDO T212 size 2. Technical data



Size	2								
Clamping range [mm]	A	36 – 54							
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Run-out ≤ [mm]		0,010							
Max. radial clamping force [kN]		85							
Max. axial drawtube force [pull / push] [kN]		20							
Max. clamping length [mm]	AG	40							
Reserve stroke in Ø [mm]	D	0,3							
Release stroke in Ø [mm]	C	0,5							
RPM n max. [1/min.]		7000							
Reserve stroke axial [mm]	Q	1,5							
Release stroke axial [mm]	R	2							
Reception workpiece end-stop	FD	Ø 65 f7							
End-stop outer Ø [mm]	AZ	104							
End-stop outer Ø 2 [mm]	EM	76							
Bolt hole circle end-stop	B	LK Ø 90 [3 x M6]							
Length [mm]	H	80,5							
Length 2 [mm]	BS	132							
Total length [mm]	I	172		176		172			
Depth [mm]	BR	71,5							
Connecting thread inside	S	M30 x 1,5							
Connecting thread outside	T	M44 x 1,5							
Distance [mm]	JA	30		34		30			
Depth of thread [mm]	M	25,5							
Thread length [mm]	N	19							
Max. drawtube Ø [mm]	DG	54							
Minimum length of DG [mm]		13							
Bore-Ø	FH	61	79,6	103,2	100	77	80	103	
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]
Outer Ø [mm]	AW	140		165		140		150	
Outer Ø 2 [mm]	HD	139							
Air sensing control bolt hole circle-Ø [mm]	HQ	84							
Air sensing control bore Ø [mm]	KN	3							
Central air sensing connection Ø optional [mm]		12 H7							
Weight [kg]		10,4	9,8	10,8	15,6	10	10,6	12,4	17,9

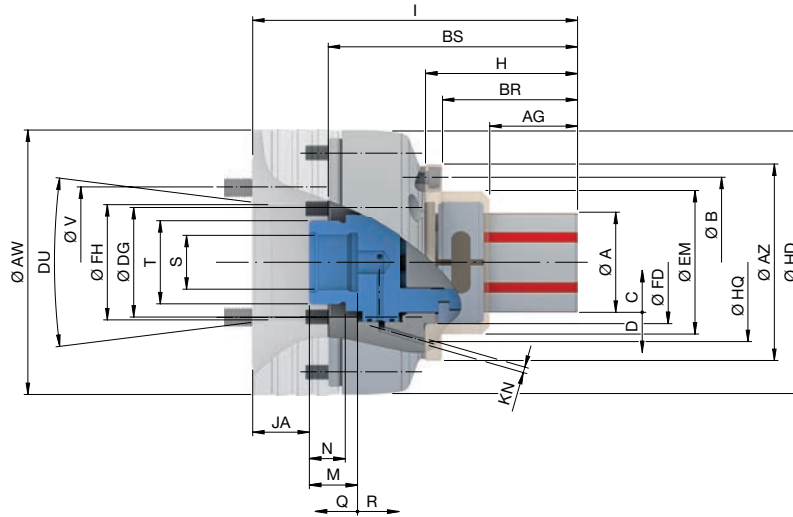


Scope of delivery

- Mandrel without spindle flange / without air sensing adapter
- Coupling ring
- Trimming sleeve for SAD segmented clamping bushings
- Mounting aid depending on size



MANDO T212 size 3. Technical data



Size	3								
Clamping range [mm]	A	50 – 80							
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Run-out ≤ [mm]		0,010							
Max. radial clamping force [kN]		105							
Max. axial drawtube force [pull / push] [kN]		25							
Max. clamping length [mm]	AG	44,5							
Reserve stroke in Ø [mm]	D	0,4							
Release stroke in Ø [mm]	C	0,5							
RPM n max. [1/min.]		6000							
Reserve stroke axial [mm]	Q	2							
Release stroke axial [mm]	R	2,5							
Reception workpiece end-stop	FD	Ø 83 f7							
End-stop outer Ø [mm]	AZ	120							
End-stop outer Ø 2 [mm]	EM	105							
Bolt hole circle end-stop	B	LK Ø 104 [3 x M6]							
Length [mm]	H	87,5							
Length 2 [mm]	BS	140							
Total length [mm]	I	180		184		180			
Depth [mm]	BR	66,50							
Connecting thread inside	S	M30 x 1,5							
Connecting thread outside	T	M44 x 1,5							
Distance [mm]	JA	30		34		30			
Depth of thread [mm]	M	25,5							
Thread length [mm]	N	19							
Max. drawtube Ø [mm]	DG	54							
Minimum length of DG [mm]		13							
Bore-Ø	FH	61	79,6	103,2	100	77	80	103	
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]
Outer Ø [mm]	AW	140		165		140		150	
Outer Ø 2 [mm]	HD	139							
Air sensing control bolt hole circle-Ø [mm]	HQ	100							
Air sensing control bore Ø [mm]	KN	3							
Central air sensing connection Ø optional [mm]		12 H7							
Weight [kg]		11,3	10,7	11,7	16,5	10,9	11,5	13,3	18,8

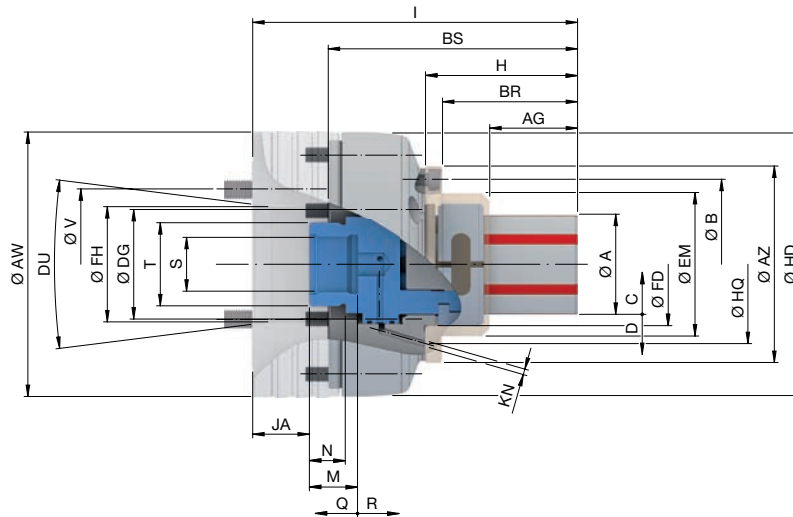


Scope of delivery

- Mandrel without spindle flange / without air sensing adapter
- Coupling ring
- Trimming sleeve for SAD segmented clamping bushings
- Mounting aid depending on size



MANDO T212 size 4. Technical data



Size	4								
Clamping range [mm]	A	69 – 100							
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Run-out ≤ [mm]		0,010							
Max. radial clamping force [kN]		150							
Max. axial drawtube force [pull / push] [kN]		35							
Max. clamping length [mm]	AG	52,5							
Reserve stroke in Ø [mm]	D	0,5							
Release stroke in Ø [mm]	C	0,6							
RPM n max. [1/min.]		6000							
Reserve stroke axial [mm]	Q	2,5							
Release stroke axial [mm]	R	3							
Reception workpiece end-stop	FD	Ø 103 f7							
End-stop outer Ø [mm]	AZ	138							
End-stop outer Ø 2 [mm]	EM	124							
Bolt hole circle end-stop	B	LK Ø 124 [3 x M6]							
Length [mm]	H	97,5							
Length 2 [mm]	BS	148,5							
Total length [mm]	I	188,5		192,5		188,5			
Depth [mm]	BR	77,50							
Connecting thread inside	S	M30 x 1,5							
Connecting thread outside	T	M44 x 1,5							
Distance [mm]	JA	30		34		30			
Depth of thread [mm]	M	25,5							
Thread length [mm]	N	19							
Max. drawtube Ø [mm]	DG	54							
Minimum length of DG [mm]		13							
Bore-Ø	FH	61	79,6	103,2	100	77	80	103	
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]
Outer Ø [mm]	AW	140		165		140		150	
Outer Ø 2 [mm]	HD	139							
Air sensing control bolt hole circle-Ø [mm]	HQ	116							
Air sensing control bore Ø [mm]	KN	3							
Central air sensing connection Ø optional [mm]		12 H7							
Weight [kg]		12,5	11,9	12,9	17,7	12,1	12,7	14,5	20

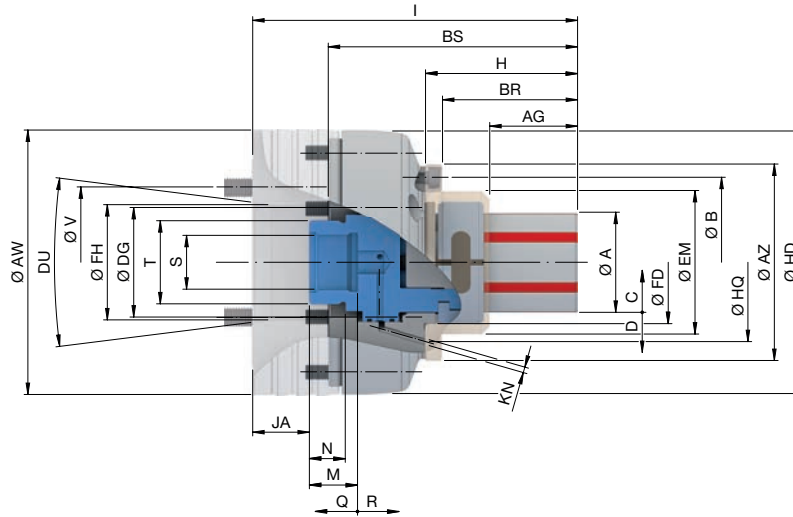


Scope of delivery

- Mandrel without spindle flange / without air sensing adapter
- Coupling ring
- Trimming sleeve for SAD segmented clamping bushings
- Mounting aid depending on size



MANDO T212 size 5. Technical data



Size	5		
Clamping range [mm]	A		
Spindle nose	100 – 130		
	A2-6	A2-8	A2-11
Run-out ≤ [mm]	0,010		
Max. radial clamping force [kN]	170		
Max. axial drawtube force [pull / push] [kN]	40		
Max. clamping length [mm]	53		
Reserve stroke in Ø [mm]	0,6		
Release stroke in Ø [mm]	0,6		
RPM n max. [1/min.]	5000		
Reserve stroke axial [mm]	3		
Release stroke axial [mm]	3		
Reception workpiece end-stop	Ø 140 f7		
End-stop outer Ø [mm]	195		
End-stop outer Ø 2 [mm]	160		
Bolt hole circle end-stop	LK Ø 176 [3 x M8]		
Length [mm]	112		
Length 2 [mm]	175		
Total length [mm]	238,5	242,5	248,5
Depth [mm]	92		
Connecting thread inside	M30 x 1,5		
Connecting thread outside	M44 x 1,5		
Distance [mm]	53,5	57,5	63,5
Depth of thread [mm]	25,5		
Thread length [mm]	19		
Max. drawtube Ø [mm]	118		
Minimum length of DG [mm]	13		
Bore-Ø	103	136	155
Bolt hole circle	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 235 [6 x M20]
Outer Ø [mm]	235		
Outer Ø 2 [mm]	230		
Air sensing control bolt hole circle-Ø [mm]	170		
Air sensing control bore Ø [mm]	3		
Central air sensing connection Ø optional [mm]	12 H7		
Weight [kg]	40	39	49

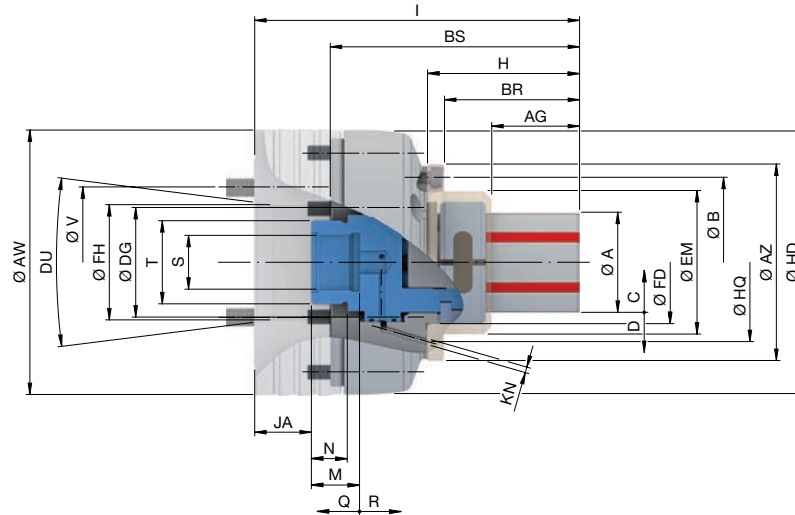


Scope of delivery

- Mandrel without spindle flange / without air sensing adapter
- Coupling ring
- Trimming sleeve for SAD segmented clamping bushings
- Mounting aid depending on size



MANDO T212 size 6. Technical data



Size	6			
Clamping range [mm]	A	130 – 160		
Spindle nose	DU	A2-6	A2-8	A2-11
Run-out ≤ [mm]			0,010	
Max. radial clamping force [kN]			170	
Max. axial drawtube force [pull / push] [kN]			40	
Max. clamping length [mm]	AG		61	
Reserve stroke in Ø [mm]	D		0,6	
Release stroke in Ø [mm]	C		0,6	
RPM n max. [1/min.]			4000	
Reserve stroke axial [mm]	Q		3	
Release stroke axial [mm]	R		3	
Reception workpiece end-stop	FD		Ø 164 f7	
End-stop outer Ø [mm]	AZ		226	
End-stop outer Ø 2 [mm]	EM		190	
Bolt hole circle end-stop	B		LK Ø 200 [3 x M8]	
Length [mm]	H		121,5	
Length 2 [mm]	BS		188,5	
Total length [mm]	I	252	256	262
Depth [mm]	BR		87	
Connecting thread inside	S		M30 x 1,5	
Connecting thread outside	T		M44 x 1,5	
Distance [mm]	JA	53,5	57,5	63,5
Depth of thread [mm]	M		25,5	
Thread length [mm]	N		19	
Max. drawtube Ø [mm]	DG		142	
Minimum length of DG [mm]			13	
Bore-Ø	FH	103	136	155
Bolt hole circle	V	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 235 [6 x M20]
Outer Ø [mm]	AW		235	280
Outer Ø 2 [mm]	HD		231	
Air sensing control bolt hole circle-Ø [mm]	HQ		192	
Air sensing control bore Ø [mm]	KN		3	
Central air sensing connection Ø optional [mm]			12 H7	
Weight [kg]		45		55

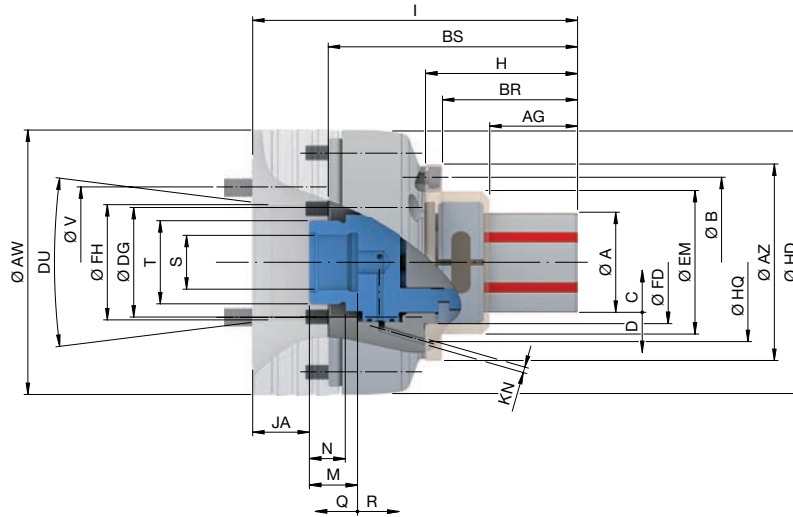


Scope of delivery

- Mandrel without spindle flange / without air sensing adapter
- Coupling ring
- Trimming sleeve for SAD segmented clamping bushings
- Mounting aid depending on size



MANDO T212 size 7. Technical data



Size	7		
Clamping range [mm]	A		
Spindle nose	160 – 190		
	A2-6	A2-8	A2-11
Run-out ≤ [mm]		0,010	
Max. radial clamping force [kN]		190	
Max. axial drawtube force [pull / push] [kN]		45	
Max. clamping length [mm]	AG	55	
Reserve stroke in Ø [mm]	D	0,6	
Release stroke in Ø [mm]	C	0,8	
RPM n max. [1/min.]		3200	
Reserve stroke axial [mm]	Q	3	
Release stroke axial [mm]	R	4	
Reception workpiece end-stop	FD	Ø 192 f7	
End-stop outer Ø [mm]	AZ	234	
End-stop outer Ø 2 [mm]	EM	212	
Bolt hole circle end-stop	B	LK Ø 216 [3 x M8]	
Length [mm]	H	115	
Length 2 [mm]	BS	188,5	
Total length [mm]	I	247,5	257,5
Depth [mm]	BR	101	
Connecting thread inside	S	M30 x 1,5	
Connecting thread outside	T	M44 x 1,5	
Distance [mm]	JA	53,5	63,5
Depth of thread [mm]	M	25,5	
Thread length [mm]	N	19	
Max. drawtube Ø [mm]	DG	142	
Minimum length of DG [mm]		0	
Bore-Ø	FH	103	136
Bolt hole circle	V	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]
Outer Ø [mm]	AW	235	LK Ø 235 [6 x M20]
Outer Ø 2 [mm]	HD		280
Air sensing control bolt hole circle-Ø [mm]	HQ		216
Air sensing control bore Ø [mm]	KN		3
Central air sensing connection Ø optional [mm]		12 H7	
Weight [kg]		49	58

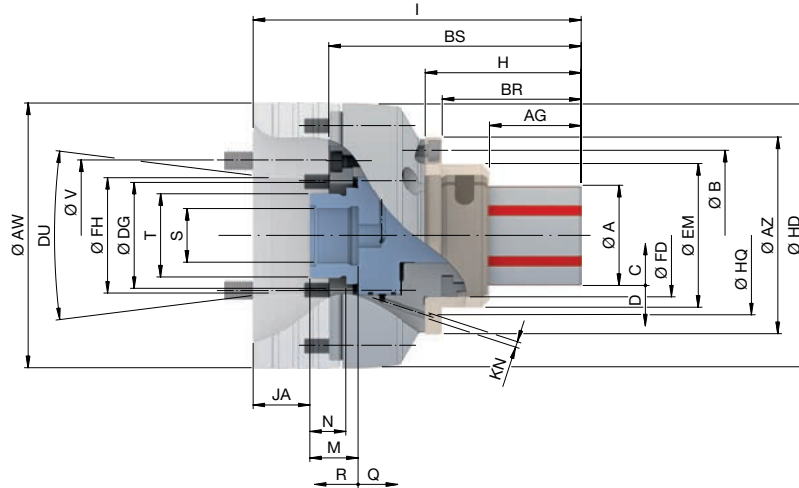


Scope of delivery

- Mandrel without spindle flange / without air sensing adapter
- Coupling ring
- Trimming sleeve for SAD segmented clamping bushings
- Mounting aid depending on size



MANDO T812 size XXS. Technical data



Size	XXS								
Clamping range [mm]	A	8 – 13							
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Run-out ≤ [mm]		0,025							
Max. radial clamping force [kN]		42							
Max. axial compression force [kN]		10							
Max. clamping length [mm]	AG	12,9							
Reserve stroke in Ø [mm]	D	0,2							
Release stroke in Ø [mm]	C	0,2							
RPM n max. [1/min.]		7000							
Reserve stroke axial [mm]	Q	1,5							
Release stroke axial [mm]	R	1,5							
Reception workpiece end-stop	FD	Ø 34 f7							
End-stop outer Ø [mm]	AZ	65							
End-stop outer Ø 2 [mm]	EM	41							
Bolt hole circle end-stop		LK Ø 53 [3 x M5]							
Length [mm]	H	44							
Length 2 [mm]	BS	96							
Total length [mm]	I	136		140		136			
Depth [mm]	BR	35							
Connecting thread inside	S	M30 x 1,5							
Connecting thread outside	T	M44 x 1,5							
Distance [mm]	JA	30		34		30			
Depth of thread [mm]	M	25,5							
Thread length [mm]	N	19							
Max. drawtube Ø [mm]	DG	54							
Minimum length of DG [mm]		13							
Bore-Ø	FH	61	79,6	103,2	100	77	80	103	
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]
Outer Ø [mm]	AW	140		165		210		140	150
Outer Ø 2 [mm]	HD	139							
Air sensing control bolt hole circle-Ø [mm]	HQ	56							
Air sensing control bore Ø [mm]	KN	3							
Central air sensing connection Ø optional [mm]		12 H7							
Weight [kg]		9,1	8,5	9,5	14,4	8,7	9,3	11,1	16,6

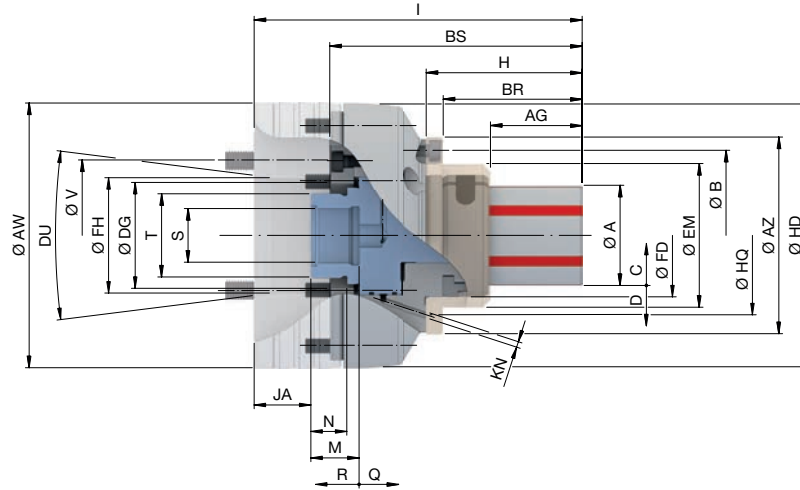


Scope of delivery

- Mandrel without spindle flange / without air sensing adapter
- Coupling ring
- Trimming sleeve for SAD segmented clamping bushings
- Mounting aid depending on size



MANDO T812 size XS. Technical data



Size	XS										
Clamping range [mm]	A	13 – 19									
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220		
Run-out ≤ [mm]		0,025									
Max. radial clamping force [kN]		42									
Max. axial compression force [kN]		10									
Max. clamping length [mm]	AG	14									
Reserve stroke in Ø [mm]	D	0,3									
Release stroke in Ø [mm]	C	0,4									
RPM n max. [1/min.]		7000									
Reserve stroke axial [mm]	Q	1,5									
Release stroke axial [mm]	R	2									
Reception workpiece end-stop	FD	Ø 36 f7									
End-stop outer Ø [mm]	AZ	65									
End-stop outer Ø 2 [mm]	EM	42									
Bolt hole circle end-stop	B	LK Ø 53 [3 x M6]									
Length [mm]	H	47,5									
Length 2 [mm]	BS	99									
Total length [mm]	I	137		141		137					
Depth [mm]	BR	39,5									
Connecting thread inside	S	M30 x 1,5									
Connecting thread outside	T	M44 x 1,5									
Distance [mm]	JA	30		34		30					
Depth of thread [mm]	M	25,5									
Thread length [mm]	N	19									
Max. drawtube Ø [mm]	DG	54									
Minimum length of DG [mm]		13									
Bore-Ø	FH	61	79,6	103,2	100	77	80	103			
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]		
Outer Ø [mm]	AW	140		165		210		140	150	180	230
Outer Ø 2 [mm]	HD	139									
Air sensing control bolt hole circle-Ø [mm]	HQ	56									
Air sensing control bore Ø [mm]	KN	3									
Central air sensing connection Ø optional [mm]		12 H7									
Weight [kg]		9	8,4	9,4	14,3	8,6	9,2	11	16,5		

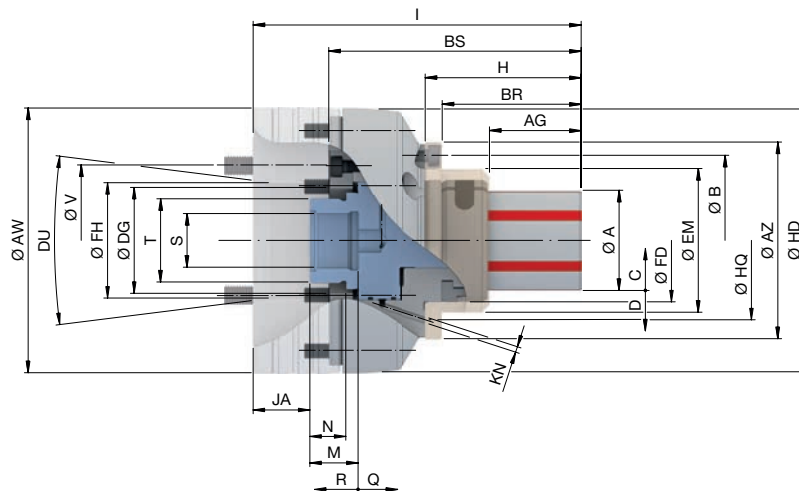


Scope of delivery

- Mandrel without spindle flange / without air sensing adapter
- Coupling ring
- Trimming sleeve for SAD segmented clamping bushings
- Mounting aid depending on size



MANDO T812 size S. Technical data



Size	S								
Clamping range [mm]	A	16 – 21							
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Run-out ≤ [mm]		0,025							
Max. radial clamping force [kN]		42							
Max. axial compression force [kN]		10							
Max. clamping length [mm]	AG	15							
Reserve stroke in Ø [mm]	D	0,3							
Release stroke in Ø [mm]	C	0,4							
RPM n max. [1/min.]		7000							
Reserve stroke axial [mm]	Q	1,5							
Release stroke axial [mm]	R	2							
Reception workpiece end-stop	FD	Ø 39 f7							
End-stop outer Ø [mm]	AZ	70							
End-stop outer Ø 2 [mm]	EM	45							
Bolt hole circle end-stop		LK Ø 57 [3 x M6]							
Length [mm]	H	49,5							
Length 2 [mm]	BS	102							
Total length [mm]	I	139		143		139			
Depth [mm]	BR	41,5							
Connecting thread inside	S	M30 x 1,5							
Connecting thread outside	T	M44 x 1,5							
Distance [mm]	JA	30		34		30			
Depth of thread [mm]	M	25,5							
Thread length [mm]	N	19							
Max. drawtube Ø [mm]	DG	54							
Minimum length of DG [mm]		13							
Bore-Ø	FH	61	79,6	103,2	100	77	80	103	
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]
Outer Ø [mm]	AW	140		165		210		140	150
Outer Ø 2 [mm]	HD	139							
Air sensing control bolt hole circle-Ø [mm]	HQ	60							
Air sensing control bore Ø [mm]	KN	3							
Central air sensing connection Ø optional [mm]		12 H7							
Weight [kg]		9,2	8,6	9,6	14,5	8,8	9,4	11,2	16,7

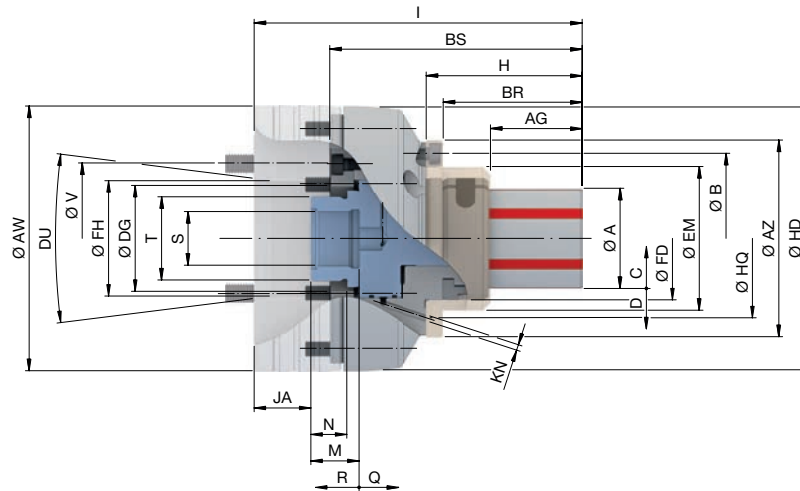


Scope of delivery

- Mandrel without spindle flange / without air sensing adapter
- Coupling ring
- Trimming sleeve for SAD segmented clamping bushings
- Mounting aid depending on size



MANDO T812 size 0. Technical data



Size	0								
Clamping range [mm]	A	20 – 28							
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Run-out ≤ [mm]		0,015							
Max. radial clamping force [kN]		42							
Max. axial compression force [kN]		10							
Max. clamping length [mm]	AG	21							
Reserve stroke in Ø [mm]	D	0,3							
Release stroke in Ø [mm]	C	0,4							
RPM n max. [1/min.]		7000							
Reserve stroke axial [mm]	Q	1,5							
Release stroke axial [mm]	R	2							
Reception workpiece end-stop	FD	Ø 47 f7							
End-stop outer Ø [mm]	AZ	90							
End-stop outer Ø 2 [mm]	EM	54							
Bolt hole circle end-stop		LK Ø 70 [3 x M6]							
Length [mm]	H	60,5							
Length 2 [mm]	BS	114							
Total length [mm]	I	152		156		152			
Depth [mm]	BR	51,5							
Connecting thread inside	S	M30 x 1,5							
Connecting thread outside	T	M44 x 1,5							
Distance [mm]	JA	30		34		30			
Depth of thread [mm]	M	25,5							
Thread length [mm]	N	19							
Max. drawtube Ø [mm]	DG	54							
Minimum length of DG [mm]		13							
Bore-Ø	FH	61	79,6	103,2	100	77	80	103	
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]
Outer Ø [mm]	AW	140		165		210		140	150
Outer Ø 2 [mm]	HD	139							
Air sensing control bolt hole circle-Ø [mm]	HQ	70							
Air sensing control bore Ø [mm]	KN	3							
Central air sensing connection Ø optional [mm]		12 H7							
Weight [kg]		9,9	9,3	10,3	15,2	9,5	10,1	11,9	17,4

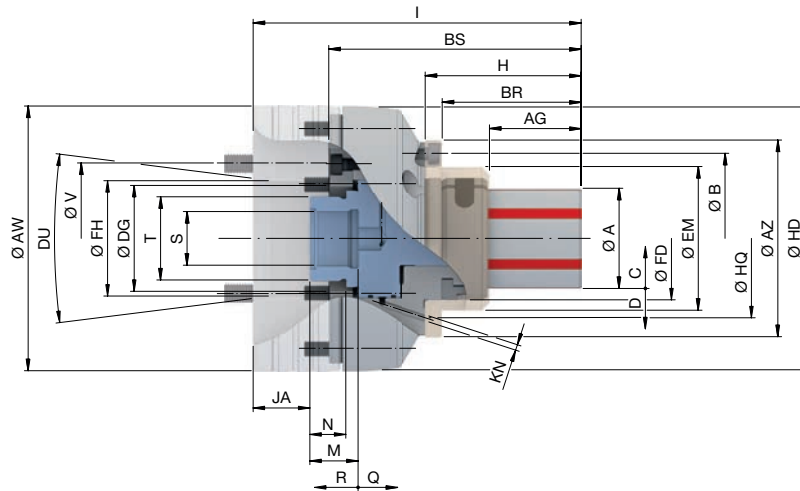


Scope of delivery

- Mandrel without spindle flange / without air sensing adapter
- Coupling ring
- Trimming sleeve for SAD segmented clamping bushings
- Mounting aid depending on size



MANDO T812 size 1. Technical data



Size	1								
Clamping range [mm]	A	26 – 38							
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Run-out ≤ [mm]		0,015							
Max. radial clamping force [kN]		42							
Max. axial compression force [kN]		10							
Max. clamping length [mm]	AG	25							
Reserve stroke in Ø [mm]	D	0,3							
Release stroke in Ø [mm]	C	0,4							
RPM n max. [1/min.]		7000							
Reserve stroke axial [mm]	Q	1,5							
Release stroke axial [mm]	R	2							
Reception workpiece end-stop	FD	Ø 55 f7							
End-stop outer Ø [mm]	AZ	90							
End-stop outer Ø 2 [mm]	EM	62							
Bolt hole circle end-stop	B	LK Ø 75 [3 x M6]							
Length [mm]	H	66,5							
Length 2 [mm]	BS	117,5							
Total length [mm]	I	156		160		156			
Depth [mm]	BR	57,5							
Connecting thread inside	S	M30 x 1,5							
Connecting thread outside	T	M44 x 1,5							
Distance [mm]	JA	30		34		30			
Depth of thread [mm]	M	25,5							
Thread length [mm]	N	19							
Max. drawtube Ø [mm]	DG	54							
Minimum length of DG [mm]		13							
Bore-Ø	FH	61	79,6	133,4	100	77	80	103	
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 103,2 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]
Outer Ø [mm]	AW	140		165		210		140	150
Outer Ø 2 [mm]	HD	139							
Air sensing control bolt hole circle-Ø [mm]	HQ	70							
Air sensing control bore Ø [mm]	KN	3							
Central air sensing connection Ø optional [mm]		12 H7							
Weight [kg]		10	9,3	10,3	15,2	9,5	10	12	17,4

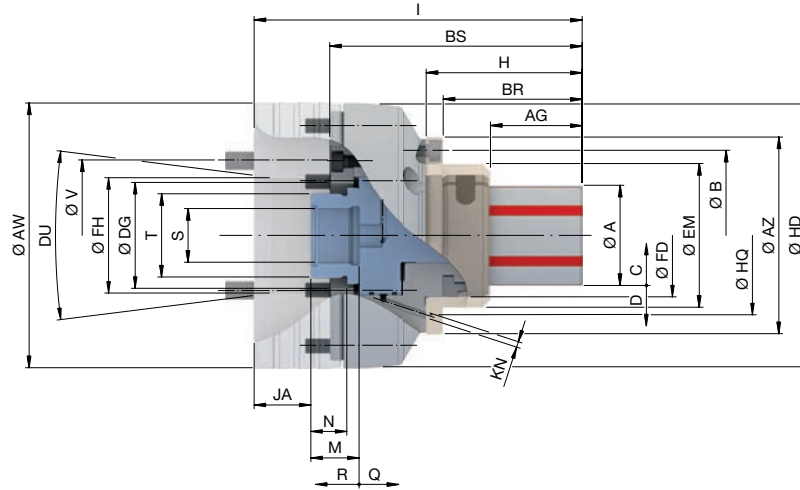


Scope of delivery

- Mandrel without spindle flange / without air sensing adapter
- Coupling ring
- Trimming sleeve for SAD segmented clamping bushings
- Mounting aid depending on size



MANDO T812 size 2. Technical data



Size	2									
Clamping range [mm]	A	36 – 54								
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220	
Run-out ≤ [mm]		0,015								
Max. radial clamping force [kN]		85								
Max. axial compression force [kN]		20								
Max. clamping length [mm]	AG	40								
Reserve stroke in Ø [mm]	D	0,3								
Release stroke in Ø [mm]	C	0,5								
RPM n max. [1/min.]		7000								
Reserve stroke axial [mm]	Q	1,5								
Release stroke axial [mm]	R	2,5								
Reception workpiece end-stop	FD	Ø 65 f7								
End-stop outer Ø [mm]	AZ	104								
End-stop outer Ø 2 [mm]	EM	76								
Bolt hole circle end-stop	B	LK Ø 90 [3 x M6]								
Length [mm]	H	82,5								
Length 2 [mm]	BS	133,5								
Total length [mm]	I	173,5			176		172			
Depth [mm]	BR	73,5								
Connecting thread inside	S	M30 x 1,5								
Connecting thread outside	T	M44 x 1,5								
Distance [mm]	JA	30			34		30			
Depth of thread [mm]	M	25,5								
Thread length [mm]	N	19								
Max. drawtube Ø [mm]	DG	54								
Minimum length of DG [mm]		13								
Bore-Ø	FH	61	79,6	103,2	100	77	80	103		
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	
Outer Ø [mm]	AW	140			210		140	150	180	230
Outer Ø 2 [mm]	HD	139								
Air sensing control bolt hole circle-Ø [mm]	HQ	84								
Air sensing control bore Ø [mm]	KN	3								
Central air sensing connection Ø optional [mm]		12 H7								
Weight [kg]		10,7	10	11	16	10,3	11	12,7	18,2	

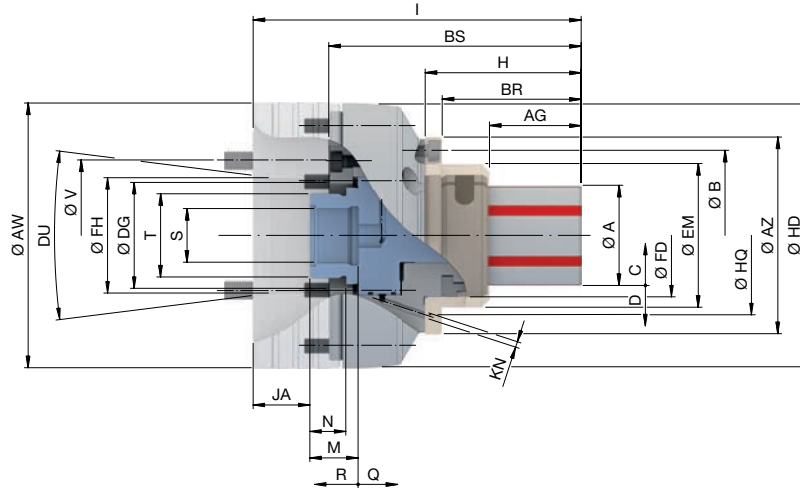


Scope of delivery

- Mandrel without spindle flange / without air sensing adapter
- Coupling ring
- Trimming sleeve for SAD segmented clamping bushings
- Mounting aid depending on size



MANDO T812 size 3. Technical data



Size	3								
Clamping range [mm]	A	50 – 80							
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Run-out ≤ [mm]		0,015							
Max. radial clamping force [kN]		105							
Max. axial compression force [kN]		25							
Max. clamping length [mm]	AG	44,5							
Reserve stroke in Ø [mm]	D	0,4							
Release stroke in Ø [mm]	C	0,5							
RPM n max. [1/min.]		6000							
Reserve stroke axial [mm]	Q	2							
Release stroke axial [mm]	R	2,5							
Reception workpiece end-stop	FD	Ø 83 f7							
End-stop outer Ø [mm]	AZ	120							
End-stop outer Ø 2 [mm]	EM	105							
Bolt hole circle end-stop	B	LK Ø 104 [3 x M6]							
Length [mm]	H	89,5							
Length 2 [mm]	BS	141,5							
Total length [mm]	I	179		183		179			
Depth [mm]	BR	80,0							
Connecting thread inside	S	M30 x 1,5							
Connecting thread outside	T	M44 x 1,5							
Distance [mm]	JA	30		34		30			
Depth of thread [mm]	M	25,5							
Thread length [mm]	N	19							
Max. drawtube Ø [mm]	DG	54							
Minimum length of DG [mm]		13							
Bore-Ø	FH	61	79,6	103,2	100	77	80	103	
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]
Outer Ø [mm]	AW	140		165		210		140	150
Outer Ø 2 [mm]	HD	139							
Air sensing control bolt hole circle-Ø [mm]	HQ	100							
Air sensing control bore Ø [mm]	KN	3							
Central air sensing connection Ø optional [mm]		12 H7							
Weight [kg]		11,8	11,2	12,2	17	11,4	12	13,8	19,3

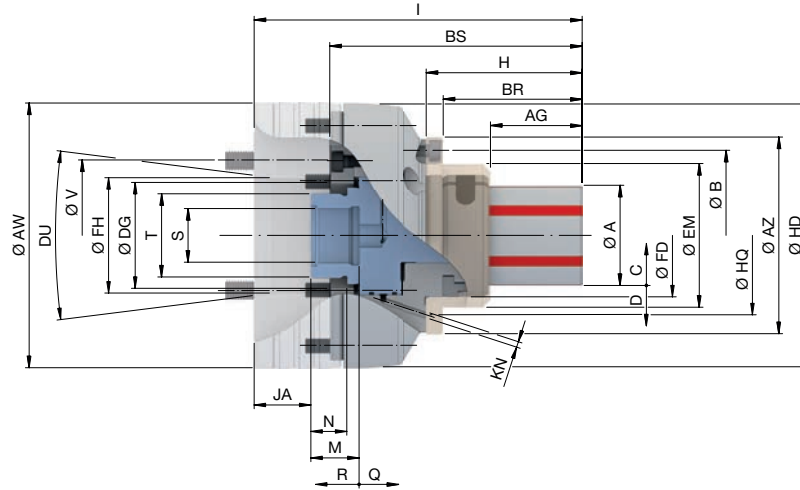


Scope of delivery

- Mandrel without spindle flange / without air sensing adapter
- Coupling ring
- Trimming sleeve for SAD segmented clamping bushings
- Mounting aid depending on size



MANDO T812 size 4. Technical data



Size	4								
Clamping range [mm]	A	69 – 100							
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Run-out ≤ [mm]		0,015							
Max. radial clamping force [kN]		150							
Max. axial compression force [kN]		35							
Max. clamping length [mm]	AG	52,5							
Reserve stroke in Ø [mm]	D	0,5							
Release stroke in Ø [mm]	C	0,6							
RPM n max. [1/min.]		6000							
Reserve stroke axial [mm]	Q	2,5							
Release stroke axial [mm]	R	3							
Reception workpiece end-stop	FD	Ø 103 f7							
End-stop outer Ø [mm]	AZ	138							
End-stop outer Ø 2 [mm]	EM	124							
Bolt hole circle end-stop	B	LK Ø 124 [3 x M6]							
Length [mm]	H	100							
Length 2 [mm]	BS	151,5							
Total length [mm]	I	189		193		189			
Depth [mm]	BR	90,5							
Connecting thread inside	S	M30 x 1,5							
Connecting thread outside	T	M44 x 1,5							
Distance [mm]	JA	30		34		30			
Depth of thread [mm]	M	25,5							
Thread length [mm]	N	19							
Max. drawtube Ø [mm]	DG	54							
Minimum length of DG [mm]		13							
Bore-Ø	FH	61	79,6	103,2	100	77	80	103	
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]
Outer Ø [mm]	AW	140		165		210		140	150
Outer Ø 2 [mm]	HD	139							
Air sensing control bolt hole circle-Ø [mm]	HQ	116							
Air sensing control bore Ø [mm]	KN	3							
Central air sensing connection Ø optional [mm]		12 H7							
Weight [kg]		13,2	12,6	13,6	18,5	12,8	13,4	15,2	20,7



Scope of delivery

- Mandrel without spindle flange / without air sensing adapter
- Coupling ring
- Trimming sleeve for SAD segmented clamping bushings
- Mounting aid depending on size



Order overview. Flanges for MANDO mandrels

Size	Figure	Spindle nose DU	Flange height [mm] AP	Interface X	Outer Ø [mm] AW	Bolt hole circle V	In stock	Material no.		
XXS – 4 / A – F		A2-4	40	Ø 131	140	LK Ø 82,6 [3 x M10]	✓	10014772		
		A2-5				77	LK Ø 104,8 [6 x M10]	✓	10014771	
						85		✓	10014781	
		A2-6	40				✓	10014782		
			60				✓	10014770		
			80				✓	10014783		
		100			✓	10014784				
	A2-8	44			✓	10014785				
						✓	10014773			
	5 – 7		AP120		40	Ø 219	140	LK Ø 171,4 [6 x M16]	✓	10014774
			AP140						LK Ø 104,8 [6 x M10]	✓
			AP170					180	LK Ø 133,4 [6 x M12]	✓
AP220				230			LK Ø 171,4 [6 x M16]	✓	10014777	
								✓	10014778	
5 – 7		A2-6	63,5	Ø 219	235	LK Ø 133,4 [6 x M12]	✓	10014778		
		A2-8	67,5			LK Ø 171,4 [6 x M16]	✓	10014779		
		A2-11	73,5			LK Ø 235 [6 x M20]	✓	10014780		

Flanges size 5 – 7 AP upon request.
Machine spindle standard DIN ISO 702-1.

MANDRELS

Mandrel MANDO

Mandrels

Stationary
clamping devices

Adaptation
clamping devices

Measuring tech-
nology/ Automation

Quick change-
over systems

Special solutions

Clamping elements/
Accessories

Services

Multi spindles



MANDO G

The best choice for gear cutting





Clamping solutions for the gear-cutting sector are unique and have very special requirements. Consequently, it is not easy to find the suitable clamping device, particularly in the case of part variation and smaller lot sizes. The conventional solution is to use fixtures that are more or less effective.

However, this is now history. With the MANDO G211 you are relying on a standard segmented mandrel. You profit from in-stock segmented clamping bushings. The rigid and narrow mandrel with optimized tool run-out contour is ideal for use in gear cutting applications. It can also be used for gear shaping or grinding. Three end-stop levels that are placed with different proximity to the workpiece make it possible to use individual workpiece end-stops. Also a coolant connection ensures process reliability.

Whether you design the machine connection on your own, or whether you want a complete solution from us extending to the quick change-over system, in every case you profit from radial clamping with pull-back effect – and this incredibly increases the rigid clamping. Therefore you have complete control of accuracy and vibration.

Key advantages

- Standard segmented mandrel with slim interference contour
- Rigid radial clamping with pull-back effect
- Large clamping range and vibration dampening due to vulcanized clamping elements
- Three end-stop levels
- Integrated flushing channels



MANDO G in use

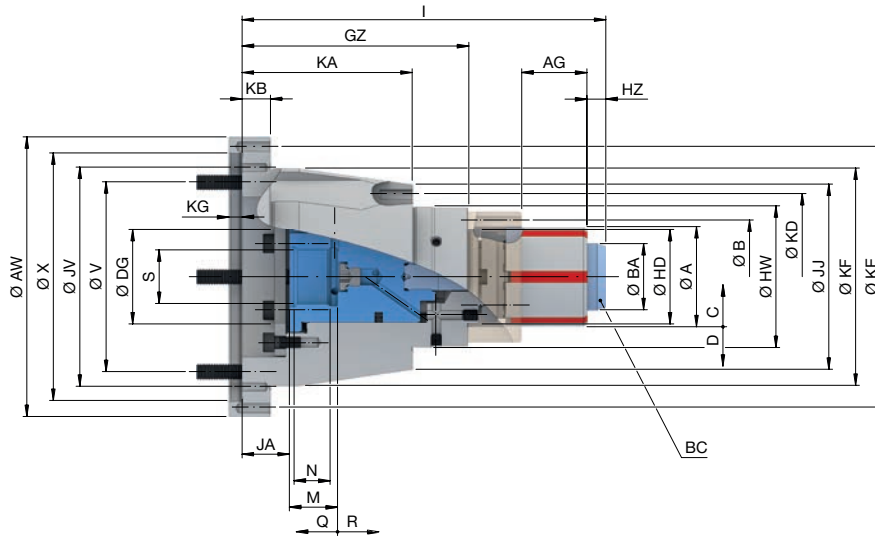


MANDO G211 in detail

Designation	
<ul style="list-style-type: none">1 Draw bolt [with safeguard to prevent unscrewing when in open position]2 Vulcanized segmented clamping bushing made of case-hardened steel [60 HRC]3 Integrated ejector pins for forced opening of the clamping4 Three flush holes to prevent contamination5 Mounting possibility for end-stops6 Torsional safety lock of segmented clamping bushing	



MANDO G211. Technical data and order overview



Size		0	1	2	3	4
Clamping range [mm]	A	20 – 28	26 – 38	36 – 54	50 – 80	69 – 120
Run-out ≤ [mm]				0,010		
Max. radial clamping force [kN]		42		85	105	150
Max. axial drawtube force [pull / push] [kN]		10		20	25	35
Max. clamping length [mm]	AG	22	26	43	49	59
Reserve stroke in Ø [mm]	D		0,3		0,4	0,5
Release stroke in Ø [mm]	C	0,4			0,5	0,6
RPM n max. [1/min.]				600		
Reserve stroke axial [mm]	Q		1,5		2	2,5
Release stroke axial [mm]	R	2			2,5	3
Max. actuating torque [Nm]	BC	10	20	25	55	
Draw bolt Ø [mm]	BA	19	25	35	49	68
Draw bolt head height [mm]	HZ	7,5		10		16
Bolt hole circle end-stop	B	LK Ø 42 [3 x M4]	LK Ø 50 [3 x M4]	LK Ø 60 [3 x M4]	LK Ø 75 [3 x M4]	
Bolt hole circle end-stop 2	KD	LK Ø 65 [3 x M6]	LK Ø 72 [3 x M6]	LK Ø 88 [3 x M6]	LK Ø 102 [3 x M6]	LK Ø 88 [3 x M5]
Bolt hole circle end-stop 3	KE			LK Ø 138 [3 x M6]		
Total length [mm]	I	171	178,5	192,5	198,5	213
Connecting thread inside	S			M30 x 1,5		
Distance [mm]	JA			25		
Depth of thread [mm]	M			25,5		
Thread length [mm]	N			19		
Max. drawtube Ø [mm]	DG		50			60
Minimum length of DG [mm]				13		
Interface	X			Ø 131 H7		
Bolt hole circle	V			LK Ø 116 [6 x M8]		
Bolt hole circle 2	JV			LK Ø 116 [6 x M5]		
Outer Ø [mm]	AW			148		
Outer Ø 2 [mm]	HD	32 f8	38 f8	50 f8	62 f8	75 f8
Outer Ø 3 [mm]	HW	50 f8	58 f8	75 f8	85 f8	
Outer Ø 4 [mm]	JJ	75	82	98	114	115
Outer Ø 5 [mm]	KF			115 f8		
End-stop height [mm]	GZ	125			120	
End-stop height 2 [mm]	KA		90		70	90
End-stop height 3 [mm]	KB			15		
Fitting depth [mm]	KG			7		
Weight [kg]		5,9		7,5	7,7	9,7
In stock		✓	✓	✓	✓	✓
Material no.		10001051	10001052	10001053	10001054	10001055

Customer-specific flanges and drawtube adapters available upon request.



Scope of delivery

- Mandrel without spindle flange
- Draw bolt



MAXXOS

The hexagonal, super-strong mandrel





MAXXOS T211 is a mandrel with a hexagonal pyramid shape instead of a round taper – perfect for demanding and reliable process manufacturing. Through the hexagonal clamping pyramid, maximum transmission forces can be realized. The segmented clamping bushing with the hexagon socket sits on the clamping pyramid with an absolute positive fit, which enables maximum machining capacity with less vibration and thereby less tool wear. The lubrication, combined with its leak-tightness ensures an extremely constant production flow and therefore maximum reliability. By the way, our segmented clamping bushings offer a factory-standard run-out accuracy of $\leq 10 \mu\text{m}$. If you need even greater precision, there are two additional levels of run-out quality to choose from. Even a run-out accuracy of $\leq 2 \mu\text{m}$ is possible upon request.

Overall the mandrel covers a clamping diameter range from 18 to 100 mm. The clamping ranges of the respective sizes are designed to overlap. As a rule – depending on the clamping diameter – you can choose from two to three different mandrel sizes. The larger mandrel always means more stability and rigidity, the smaller mandrel can cover a greater quantity of smaller workpieces if necessary.

Those who place more value on process reliability and optimum torque transmissions are very happy with the MAXXOS T211.

MAXXOS mandrel with hexagonal pyramid shape reduces your costs!

Key advantages

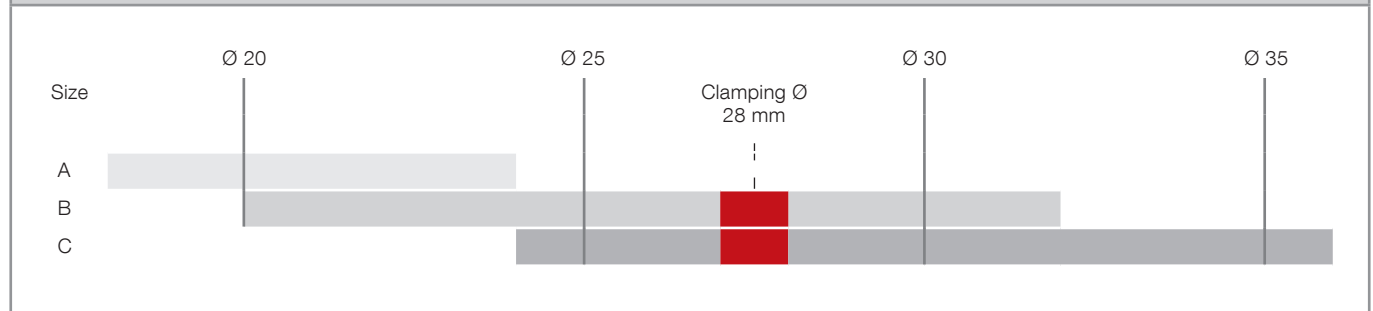
- I.D. clamping mandrel for clamping diameter 18 mm to 100 mm, in stock
- High transferable torques and holding forces
- Reduced tool wear through high rigidity
- Run-out accuracy $\leq 0.01 \text{ mm}$ / 0.007 mm possible
- Run-out accuracy $\leq 0.002 \text{ mm}$ possible upon request
- Resistant to contamination due to its hexagonal pyramid shape
- Reliable manufacturing process



MAXXOS T211 in detail

Designation	
<ol style="list-style-type: none"> 1 Vulcanized segmented clamping bushing made of case-hardened steel [60 HRC] with positioning 2 Draw bolt [with safeguard to prevent unscrewing when in open position] 3 Lubricating grooves, for optimal holding power 4 End-stop 5 Prepared for air sensing control 6 Spindle flange suitable for all standard mandrel sizes 	

Overlapping clamping ranges of the different mandrel sizes



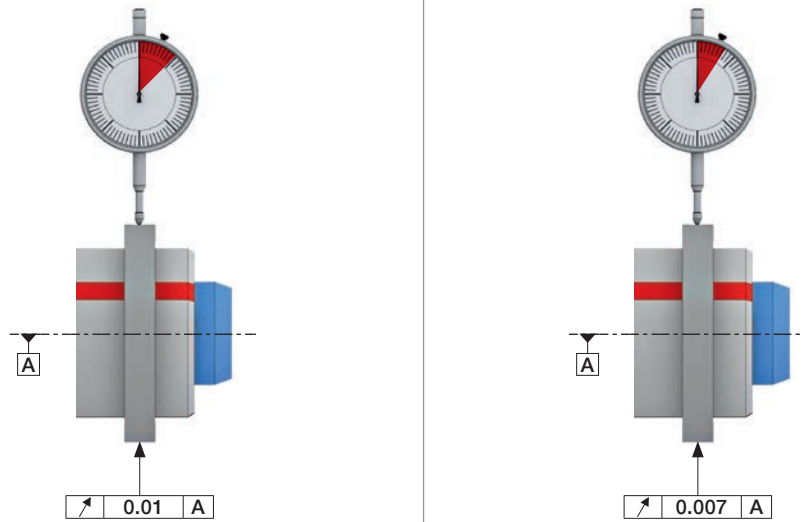
Example of the right selection of the mandrel size

Clamping diameter 28 mm:

- Condition: flexibility for additional workpieces with smaller clamping diameters → **Size B**
- Condition: higher process reliability due to greater rigidity and holding power → **Size C**



Max. run-out accuracy of the segmented clamping bushing



Variant	Standard	Premium
Run-out	≤ 10 μm	≤ 7 μm
Description	Measured on a ground run-out control ring in accordance with the HAINBUCH standard	

Order overview. MAXXOS mandrels

Size	Clamping range [mm]	In stock	Material no.
A	18 – 24	✓	10001324
B	20 – 32	✓	10001325
C	24 – 39	✓	10001326
D	32 – 50	✓	10001327
E	39 – 68	✓	10001328
F	50 – 100	✓	10001329

Scope of delivery

- Mandrel without spindle flange / without air sensing adapter
- Draw bolt

Mandrels

Stationary clamping devices

Adaptation clamping devices

Measuring technology/ Automation

Quick change-over systems

Special solutions

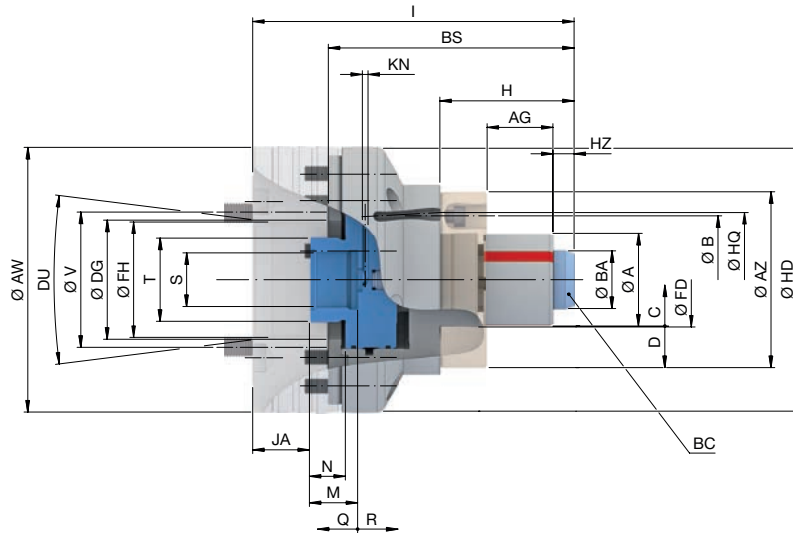
Clamping elements/ Accessories

Services

Multi spindles



MAXXOS T211 size A. Technical data

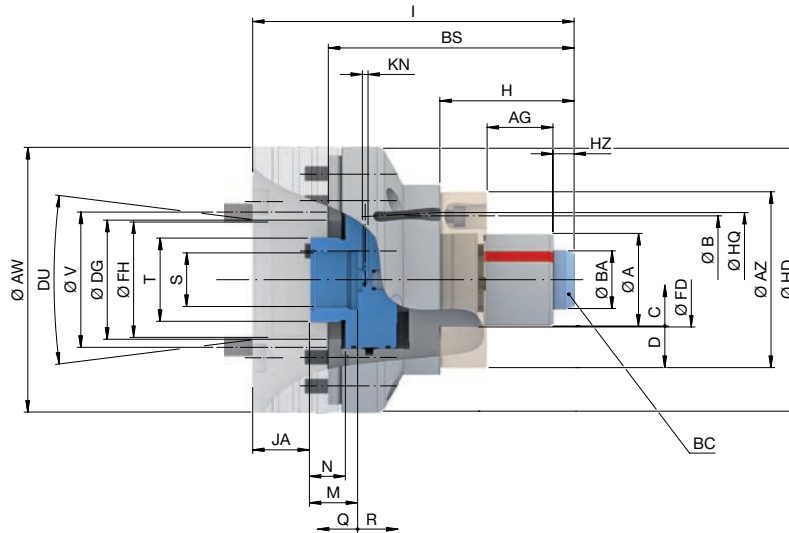


Size	A											
Clamping range [mm]	18 – 24											
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220			
Run-out ≤ [mm]									0,010			
Max. radial clamping force [kN]									27			
Max. axial drawtube force [pull / push] [kN]									7,5			
Max. clamping length [mm]	AG								20			
Reserve stroke in Ø [mm]	D								0,26			
Release stroke in Ø [mm]	C								0,18			
RPM n max. [1/min.]									7000			
Reserve stroke axial [mm]	Q								2			
Release stroke axial [mm]	R								2			
Max. actuating torque [Nm]	BC								7			
Draw bolt Ø [mm]	BA								17			
Draw bolt head height [mm]	HZ								7,5			
Reception workpiece end-stop	FD								Ø 32 f7			
End-stop outer Ø [mm]	AZ								65			
Bolt hole circle end-stop	B								LK Ø 50 [3 x M6]			
Length [mm]	H								40			
Length 2 [mm]	BS								100			
Total length [mm]	I	140			144		140					
Connecting thread inside	S								M30 x 1,5			
Connecting thread outside	T								M44 x 1,5			
Distance [mm]	JA	30			34		30					
Depth of thread [mm]	M								25,5			
Thread length [mm]	N								19			
Max. drawtube Ø [mm]	DG								54			
Minimum length of DG [mm]									13			
Bore-Ø	FH	61	79,6	103,2	100	77	80	103				
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]			
Outer Ø [mm]	AW	140			165		210		140	150	180	230
Outer Ø 2 [mm]	HD								139			
Air sensing control bolt hole circle-Ø [mm]	HQ								58			
Air sensing control bore Ø [mm]	KN								3			
Central air sensing connection Ø optional [mm]									12 H7			
Weight [kg]		8,5	10,7	12,4	13,6	8,1	8,7	10,5	16,1			





MAXXOS T211 size B. Technical data

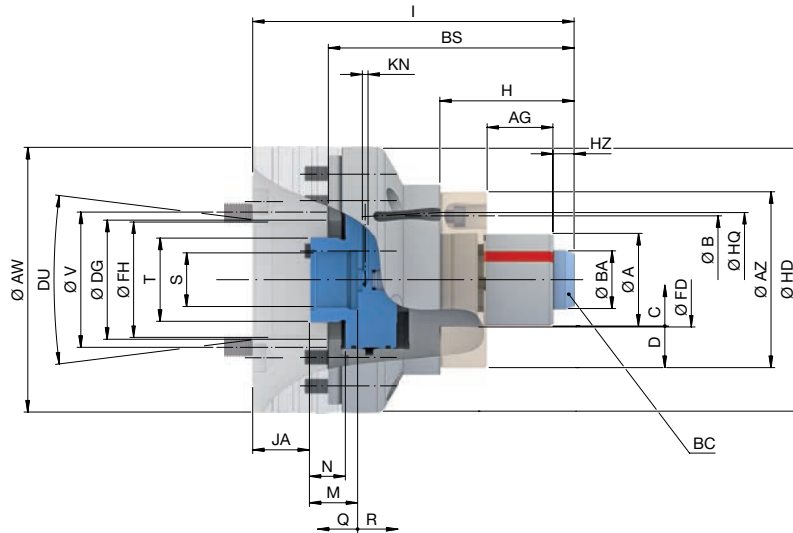


Size	B								
Clamping range [mm]	A	20 – 32							
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Run-out ≤ [mm]		0,010							
Max. radial clamping force [kN]		36							
Max. axial drawtube force [pull / push] [kN]		10							
Max. clamping length [mm]	AG	22,5							
Reserve stroke in Ø [mm]	D	0,26							
Release stroke in Ø [mm]	C	0,17							
RPM n max. [1/min.]		7000							
Reserve stroke axial [mm]	Q	2							
Release stroke axial [mm]	R	2							
Max. actuating torque [Nm]	BC	10							
Draw bolt Ø [mm]	BA	19							
Draw bolt head height [mm]	HZ	7,5							
Reception workpiece end-stop	FD	Ø 32 f7							
End-stop outer Ø [mm]	AZ	65							
Bolt hole circle end-stop	B	LK Ø 50 [3 x M6]							
Length [mm]	H	40							
Length 2 [mm]	BS	100							
Total length [mm]	I	140							
Connecting thread inside	S	M30 x 1,5							
Connecting thread outside	T	M44 x 1,5							
Distance [mm]	JA	30							
Depth of thread [mm]	M	25,5							
Thread length [mm]	N	19							
Max. drawtube Ø [mm]	DG	54							
Minimum length of DG [mm]		13							
Bore-Ø	FH	61	79,6	103,2	100	77	80	103	
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]
Outer Ø [mm]	AW	140		165	210	140	150	180	230
Outer Ø 2 [mm]	HD	139							
Air sensing control bolt hole circle-Ø [mm]	HQ	64							
Air sensing control bore Ø [mm]	KN	3							
Central air sensing connection Ø optional [mm]		12 H7							
Weight [kg]		8,9	11,1	12,8	14	8,5	9,1	10,9	16,5





MAXXOS T211 size C. Technical data

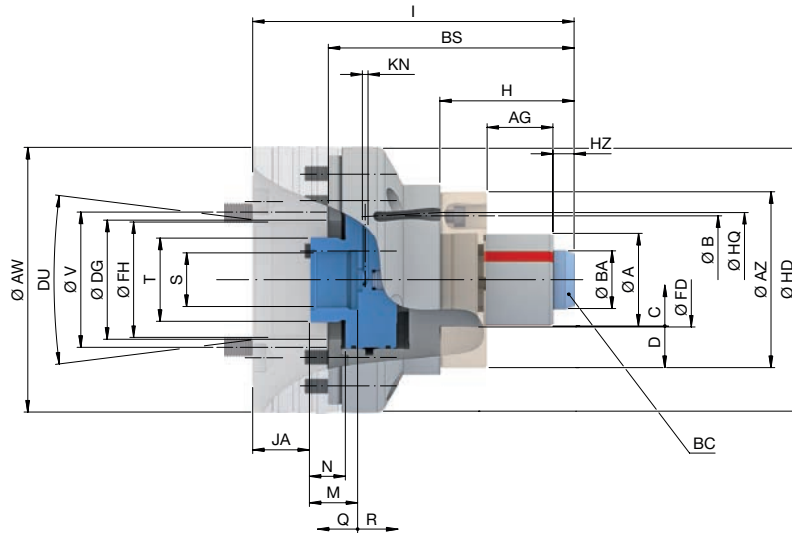


Size	C								
Clamping range [mm]	A	24 – 39							
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Run-out ≤ [mm]		0,010							
Max. radial clamping force [kN]		51							
Max. axial drawtube force [pull / push] [kN]		16							
Max. clamping length [mm]	AG	24							
Reserve stroke in Ø [mm]	D	0,4							
Release stroke in Ø [mm]	C	0,26							
RPM n max. [1/min.]		7000							
Reserve stroke axial [mm]	Q	2							
Release stroke axial [mm]	R	2							
Max. actuating torque [Nm]	BC	15							
Draw bolt Ø [mm]	BA	23							
Draw bolt head height [mm]	HZ	11							
Reception workpiece end-stop	FD	Ø 41 f7							
End-stop outer Ø [mm]	AZ	69							
Bolt hole circle end-stop	B	LK Ø 55 [3 x M6]							
Length [mm]	H	53,5							
Length 2 [mm]	BS	110							
Total length [mm]	I	150		154			150		
Connecting thread inside	S	M30 x 1,5							
Connecting thread outside	T	M44 x 1,5							
Distance [mm]	JA	30		34			30		
Depth of thread [mm]	M	25,5							
Thread length [mm]	N	19							
Max. drawtube Ø [mm]	DG	54							
Minimum length of DG [mm]		13							
Bore-Ø	FH	61	79,6	103,2	100	77	80	103	
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]
Outer Ø [mm]	AW	140		165			210	140	150
Outer Ø 2 [mm]	HD	139							
Air sensing control bolt hole circle-Ø [mm]	HQ	64							
Air sensing control bore Ø [mm]	KN	3							
Central air sensing connection Ø optional [mm]		12 H7							
Weight [kg]		8,6	10,8	12,5	13,7	8,2	8,8	10,6	16,2





MAXXOS T211 size D. Technical data

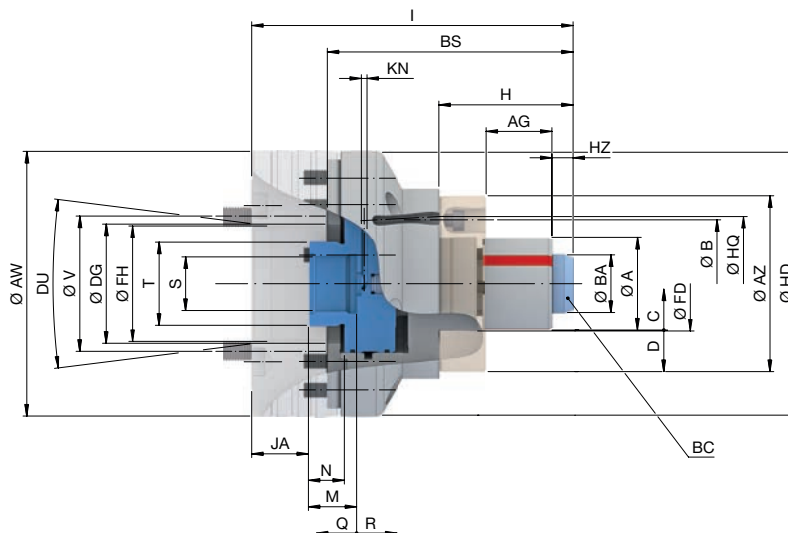


Size	D								
Clamping range [mm]	A	32 – 50							
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220
Run-out ≤ [mm]		0,010							
Max. radial clamping force [kN]		70							
Max. axial drawtube force [pull / push] [kN]		22							
Max. clamping length [mm]	AG	35,3							
Reserve stroke in Ø [mm]	D	0,4							
Release stroke in Ø [mm]	C	0,3							
RPM n max. [1/min.]		7000							
Reserve stroke axial [mm]	Q	2							
Release stroke axial [mm]	R	2,5							
Max. actuating torque [Nm]	BC	20							
Draw bolt Ø [mm]	BA	30,5							
Draw bolt head height [mm]	HZ	11,2							
Reception workpiece end-stop	FD	Ø 50 f7							
End-stop outer Ø [mm]	AZ	93							
Bolt hole circle end-stop	B	LK Ø 78 [3 x M6]							
Length [mm]	H	71							
Length 2 [mm]	BS	130							
Total length [mm]	I	170		174			170		
Connecting thread inside	S	M30 x 1,5							
Connecting thread outside	T	M44 x 1,5							
Distance [mm]	JA	30		34			30		
Depth of thread [mm]	M	25,5							
Thread length [mm]	N	19							
Max. drawtube Ø [mm]	DG	62,5							
Minimum length of DG [mm]		13							
Bore-Ø	FH	61	79,6	103,2	100	77	80	103	
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]
Outer Ø [mm]	AW	140		165			210	140	150
Outer Ø 2 [mm]	HD	139							
Air sensing control bolt hole circle-Ø [mm]	HQ	82							
Air sensing control bore Ø [mm]	KN	3							
Central air sensing connection Ø optional [mm]		12 H7							
Weight [kg]		9,3	11,5	13,3	14,4	8,9	9,5	11,3	16,9





MAXXOS T211 size E. Technical data

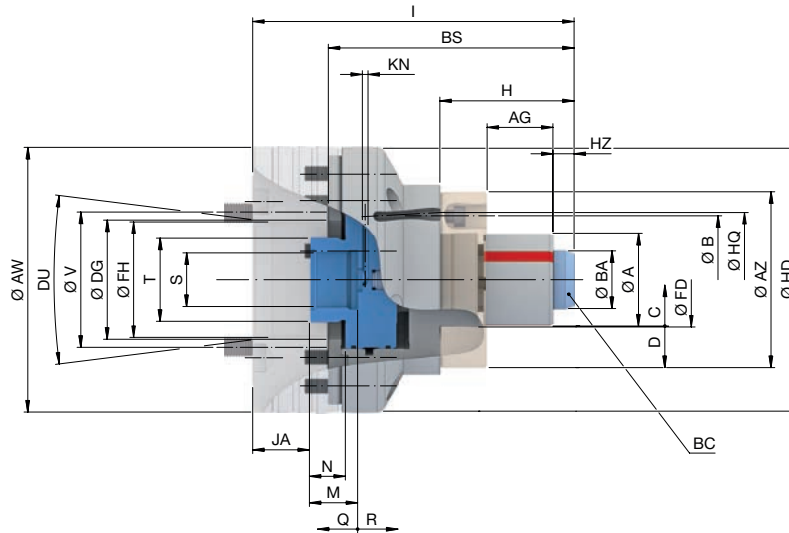


Size	E											
Clamping range [mm]	A	39 – 68										
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220			
Run-out ≤ [mm]		0,010										
Max. radial clamping force [kN]		86										
Max. axial drawtube force [pull / push] [kN]		27										
Max. clamping length [mm]	AG	45,3										
Reserve stroke in Ø [mm]	D	0,4										
Release stroke in Ø [mm]	C	0,3										
RPM n max. [1/min.]		7000										
Reserve stroke axial [mm]	Q	2										
Release stroke axial [mm]	R	2,5										
Max. actuating torque [Nm]	BC	25										
Draw bolt Ø [mm]	BA	38										
Draw bolt head height [mm]	HZ	11,2										
Reception workpiece end-stop	FD	Ø 65 f7										
End-stop outer Ø [mm]	AZ	96										
Bolt hole circle end-stop	B	LK Ø 80 [3 x M6]										
Length [mm]	H	78										
Length 2 [mm]	BS	140										
Total length [mm]	I	180			184		180					
Connecting thread inside	S	M30 x 1,5										
Connecting thread outside	T	M44 x 1,5										
Distance [mm]	JA	30			34		30					
Depth of thread [mm]	M	25,5										
Thread length [mm]	N	19										
Max. drawtube Ø [mm]	DG	62,5										
Minimum length of DG [mm]		13										
Bore-Ø	FH	61	79,6	103,2	100	77	80	103				
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]			
Outer Ø [mm]	AW	140			165		210		140	150	180	230
Outer Ø 2 [mm]	HD	139										
Air sensing control bolt hole circle-Ø [mm]	HQ	84										
Air sensing control bore Ø [mm]	KN	3										
Central air sensing connection Ø optional [mm]		12 H7										
Weight [kg]		9,9	12,1	13,9	15	9,5	10,1	11,9	17,5			





MAXXOS T211 size F. Technical data



Size	F										
Clamping range [mm]	A	50 – 100									
Spindle nose	DU	A2-4	A2-5	A2-6	A2-8	AP120	AP140	AP170	AP220		
Run-out ≤ [mm]		0,010									
Max. radial clamping force [kN]		143									
Max. axial drawtube force [pull / push] [kN]		45									
Max. clamping length [mm]	AG	45,3									
Reserve stroke in Ø [mm]	D	0,4									
Release stroke in Ø [mm]	C	0,3									
RPM n max. [1/min.]		7000									
Reserve stroke axial [mm]	Q	2									
Release stroke axial [mm]	R	2,5									
Max. actuating torque [Nm]	BC	55									
Draw bolt Ø [mm]	BA	49									
Draw bolt head height [mm]	HZ	11,7									
Reception workpiece end-stop	FD	Ø 65 f7									
End-stop outer Ø [mm]	AZ	96									
Bolt hole circle end-stop	B	LK Ø 80 [3 x M6]									
Length [mm]	H	78									
Length 2 [mm]	BS	140									
Total length [mm]	I	180			184			180			
Connecting thread inside	S	M30 x 1,5									
Connecting thread outside	T	M44 x 1,5									
Distance [mm]	JA	30			34			30			
Depth of thread [mm]	M	25,5									
Thread length [mm]	N	19									
Max. drawtube Ø [mm]	DG	62,5									
Minimum length of DG [mm]		13									
Bore-Ø	FH	61	79,6	103,2	100	77	80	103			
Bolt hole circle	V	LK Ø 82,6 [3 x M10]	LK Ø 104,8 [6 x M10]	LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]	LK Ø 104,8 [6 x M10]		LK Ø 133,4 [6 x M12]	LK Ø 171,4 [6 x M16]		
Outer Ø [mm]	AW	140			210			140	150	180	230
Outer Ø 2 [mm]	HD	139									
Air sensing control bolt hole circle-Ø [mm]	HQ	84									
Air sensing control bore Ø [mm]	KN	3									
Central air sensing connection Ø optional [mm]		12 H7									
Weight [kg]		10,2	12,4	14,2	15,3	9,8	10,4	12,2	17,8		





Flanges for MAXXOS mandrels

Size	Figure	Spindle nose DU	Flange height [mm] AP	Interface X	Outer Ø [mm] AW	Bolt hole circle V	In stock	Material no.	
XXS - 4 / A - F		A2-4	40	Ø 131	140	LK Ø 82,6 [3 x M10]	✓	10014772	
		A2-5				77	LK Ø 104,8 [6 x M10]	✓	10014771
						85		✓	10014781
		A2-6	40				✓	10014782	
			60				✓	10014770	
			80				✓	10014783	
		100			✓	10014784			
	A2-8	44			✓	10014785			
		AP120	40		140	LK Ø 171,4 [6 x M16]	✓	10014773	
		AP140			150	LK Ø 104,8 [6 x M10]	✓	10014774	
		AP170			180	LK Ø 133,4 [6 x M12]	✓	10014775	
AP220		230		LK Ø 171,4 [6 x M16]	✓	10014776			

Machine spindle standard DIN ISO 702-1.

MANDRELS

Mandrel **MAXXOS**

Mandrels

Stationary
clamping devices

Adaptation
clamping devices

Measuring tech-
nology/ Automation

Quick change-
over systems

Special solutions

Clamping elements/
Accessories

Services

Multi spindles

MANDRELS

Mandrel actuating units ms dock / hs dock

Actuating units

Use MANDO and MAXXOS segmented mandrels for stationary clamping



Mandrel actuating units ms dock / hs dock

Complete machining made easy: You cannot only use our MANDO and MAXXOS segmented mandrels on the lathe, you can also use them in stationary mode. Simply screw the mandrel onto the ms dock [manually actuated] or hs dock [hydraulically actuated] and you can clamp your workpiece from the inside, stationary mode. Precise, without vibration and with minimum set-up effort. The extremely wear-resistant segmented clamping bushing of case-hardened chromium-nickel-steel with the rubber between the segments, especially developed by HAINBUCH, makes it possible. The hand-actuated ms dock in conjunction with stationary MANDO or MAXXOS segmented mandrels is ideal for machining centers, measuring machines, radial drill presses, parallel and angle plate clampings or for clamping on dividing heads.

hs dock is an absolute powerhouse that enables hydraulic implementation of MANDO or MAXXOS segmented mandrels on machining centers. Media supply can be freely selected. It is actuated either from the side or via a base plate from below. Perfect when automation is involved.

The rotating ms dock version is applicable for max. rpm and grinding machines.

Key advantages

- Mandrels can be used on machining center
- ms dock rotating for lathes without clamping cylinder
- Manual / hydraulic mandrel actuation
- Ideal for 5-sided machining
- Clamping range \varnothing 8 – 200 mm



ms dock mandrel actuating unit in use

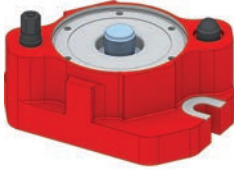
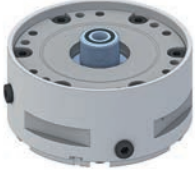












hs dock mandrel actuating unit in use

MANDRELS

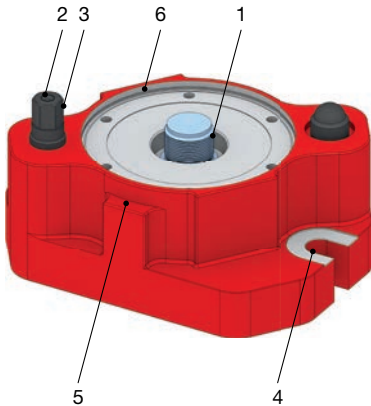
Mandrel actuating units ms dock / hs dock

Actuating units at a glance

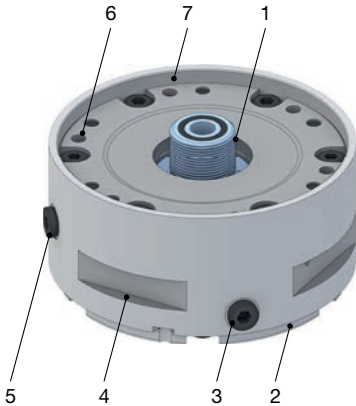
	ms dock	hs dock
		
Description	Manual actuating unit	Hydraulic actuating unit
Variant		Hydraulic clamping, hydraulic release; hydraulic clamping with spring support, hydraulic release
Advantages	<ul style="list-style-type: none"> ■ Manual actuation – a clamping cylinder is not required ■ Sensitive manual clamping is possible 	<ul style="list-style-type: none"> ■ Hydraulic actuation ■ Ideal for automated clamping ■ Can be combined as desired for multiple clamping
Adaptations	 MANDO T211 [Mandrel with draw bolt]  MANDO T212 [Mandrel without draw bolt]  MANDO T812 [Deadlength mandrel without draw bolt]  MANDO G211 [Mandrel, e.g. for gear cutting with draw bolt]  MAXXOS T211 [Mandrel for the utmost accuracy, with draw bolt]	 MANDO T211 [Mandrel with draw bolt]  MANDO T212 [Mandrel without draw bolt]  MANDO T812 [Deadlength mandrel without draw bolt]  MANDO G211 [Mandrel, e.g. for gear cutting with draw bolt]  MAXXOS T211 [Mandrel for the utmost accuracy, with draw bolt]

Mandrel actuating units ms dock / hs dock

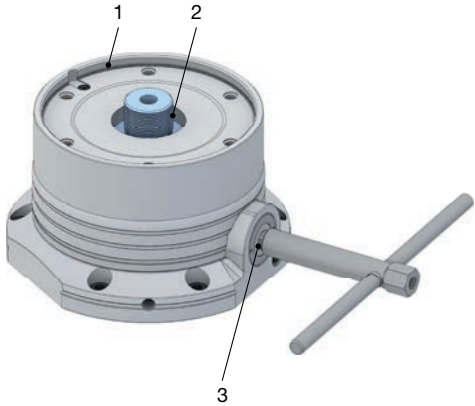
Actuating unit ms dock in detail

Designation	
<ul style="list-style-type: none"> 1 Connecting thread for clamping device actuation 2 Central grease nipple, optimal draw-in force due to perfect lubrication 3 Actuating screw 4 Screw slots for mounting 5 Supporting surface for additional holding clamps 6 Interface with cylindrical fit 	

Actuating unit hs dock in detail

Designation	
<ul style="list-style-type: none"> 1 Connecting thread for clamping device actuation 2 Ø for location in the base plate 3 Connections on the side or base to release the clamping 4 Supporting surface for additional holding clamps 5 Connections on the side or base to actuate the clamping 6 Mounting screws 7 Interface with cylindrical fit 	

Mandrel actuating unit ms dock rotating in detail

Designation	
<ul style="list-style-type: none"> 1 Interface with cylindrical fit 2 Connecting thread for clamping device actuation 3 Manual actuation via socket wrench 	

Mandrels

Stationary clamping devices

Adaptation clamping devices

Measuring technology/ Automation

Quick change-over systems

Special solutions

Clamping elements/ Accessories

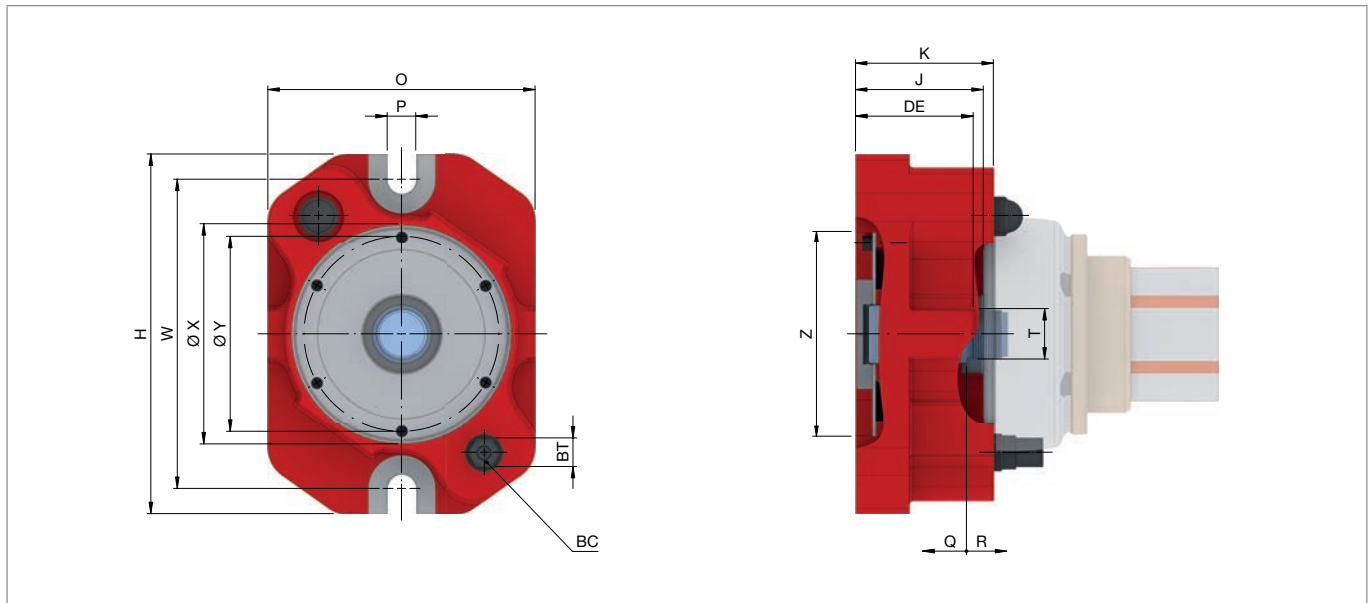
Services

Multi spindles

MANDRELS

Mandrel actuating units ms dock / hs dock

Actuating unit ms dock. Technical data and order overview



Product	ms dock	
Size	XXS – 4 / A – F	5 – 7
Max. axial drawtube force [pull / push] [kN]	35	40
Max. actuating torque [Nm]	55	70
RPM n max. [1/min.]		60
Reserve stroke axial [mm]	Q	4
Release stroke axial [mm]	R	3
Interface	X	Ø 131 H6
Interface hole circle	Y	LK Ø 116 [6 x M8]
Connecting thread outside	T	M30 x 1,5
Wrench size [SW]	BT	17
Length [mm]	H	214
Height [mm]	J	76
Overall height [mm]	K	82
Width [mm]	O	159
Centering edge [mm]	Z	122
Screw connection width [mm]	P	17
Clamping edge height [mm]	DE	70
Bolt hole distance [mm]	W	184
Weight [kg]		12
In stock		✓
Material no.	10001486	10001487

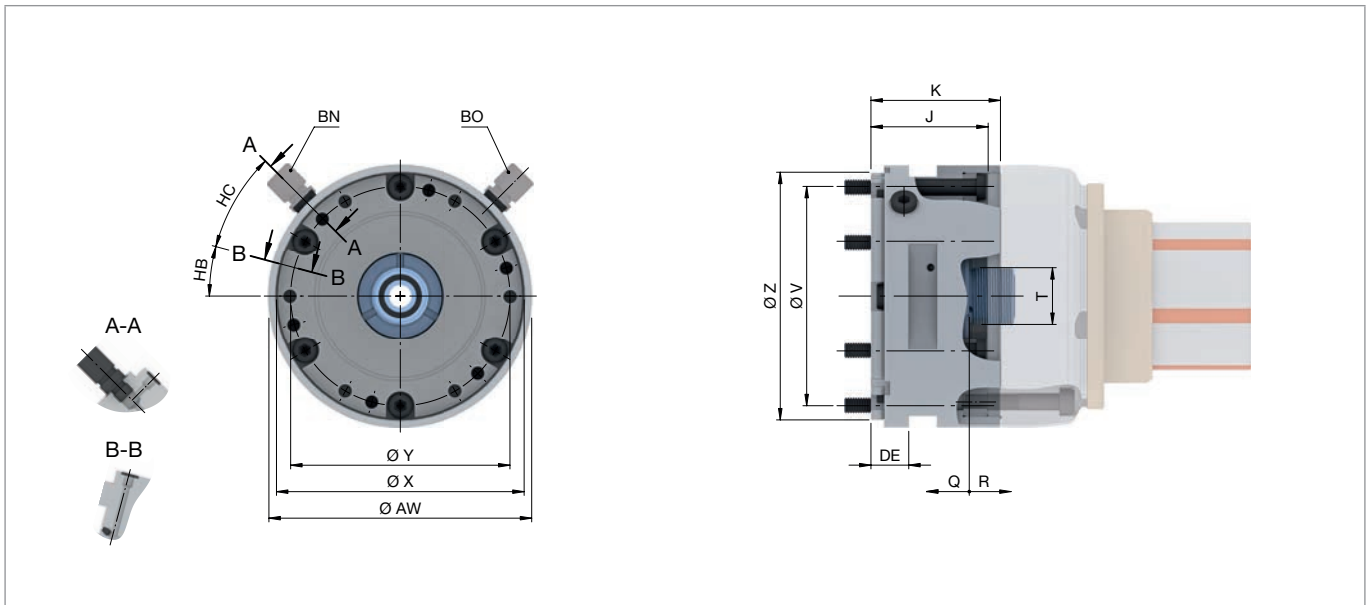


Scope of delivery

- Mandrel actuating unit
- Actuating tool

Mandrel actuating units ms dock / hs dock

Actuating unit hs dock. Technical data and order overview



Product	hs dock			
Size	XXS – 4 / A – F		5 – 7	
Variant	Without spring	With spring	Without spring	With spring
Max. axial drawtube force [pull / push] [kN]	35		45	
Max. actuating pressure [bar]	56	44	51	47
Max. release pressure [bar]	56		51	
RPM n max. [1/min.]	60			
Spring draw force axial [kN]		4		4
Spring release pressure [bar]		12		8
Reserve stroke axial [mm]	Q	3,5	3,5	1,5
Release stroke axial [mm]	R	4	4	2
Interface	X	Ø 131 H6		Ø 219 H6
Interface hole circle	Y	LK Ø 116 [6 x M8]		LK Ø 192 [6 x M10]
Connecting thread outside	T	M30 x 1,5		
Height [mm]	J	62		
Overall height [mm]	K	68,5		76
Outer Ø [mm]	AW	139		230
Bolt hole circle	V	LK Ø 116 [6 x M8]		LK Ø 192 [6 x M10]
Centering edge [mm]	Z	131		219
Clamping edge height [mm]	DE	20		
Release	BN	[1/8"]		
Clamping	BO	[1/8"]		
Release via base plate [°]	HC	30		33
Clamping via base plate [°]	HB	15		13,5
Weight [kg]		9		18
In stock		✓		
Material no.	10002070	10002071	10002072	10002073



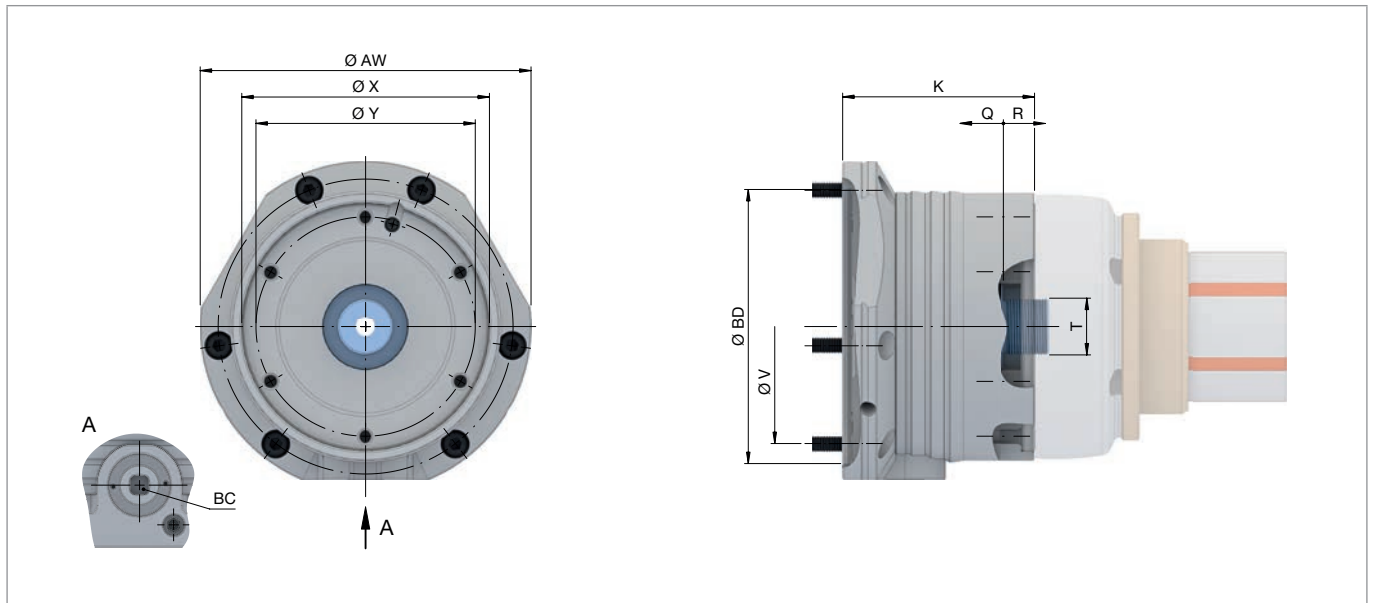
Scope of delivery

- Mandrel actuating unit

MANDRELS

Mandrel actuating units ms dock / hs dock

Actuating unit ms dock rotating. Technical data and order overview



Size	XXS - 4 / A - F	
Max. axial drawtube force [pull / push] [kN]		35
Max. actuating torque [Nm]	BC	62
RPM n max. [1/min.]		7000
Interface	X	Ø 131 H6
Interface hole circle	Y	LK Ø 116 [6 x M8]
Flange location	BD	Ø 145 H5
Overall height [mm]	K	101,5
Connecting thread outside	T	M30 x 1,5
Reserve stroke axial [mm]	Q	3
Release stroke axial [mm]	R	3
Outer Ø [mm]	AW	174
Bolt hole circle	V	LK Ø 156 [6 x M8]
Weight [kg]		12
In stock		✓
Material no.		10001050

Please note: Only pull-back mandrels [T211, T212, and G211] can be used.

		
Mandrels	Flanges	Accessory overview
Page 174	Page 517	Page 478

Scope of delivery

- Mandrel actuating unit
- Actuating tool

MANDRELS

Mandrel actuating units ms dock / hs dock

Mandrels

Stationary
clamping devices

Adaptation
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nology/ Automation

Quick change-
over systems

Special solutions

Clamping elements/
Accessories

Services

Multi spindles



Machine-specific mandrels

Standard or machine specific, which mandrel fits?

In 90% of all cases, you will find what you are looking for with our standard mandrels, that fit for the following brands, such as:

- Biglia
- Daewoo
- Doosan
- Emco
- Gildemeister
- MAG Boehringer
- MAG Hessapp
- Mazak
- Miyano
- Monforts
- Mori Seiki
- Nakamura
- Okuma
- Scherer
- Spinner
- Takamaz
- Weiler
- Weisser
- and other machine manufacturers

For certain lathes we have designed special mandrels that take the connection or other equipment features of the respective machine into account. You will find a selection to the right, such as

- LEHMANN rotary indexing tables

Of course, we still have much more in the product line. Simply ask us about it.



MANDO T211 mandrel for pl Lehmann rotary indexing tables. Pull-back / with draw bolt

Size	Type	Segmentspannbüchse	Spindle nose	In stock	Material no.
0	510	sb100r	HSK-A63	-	10001303
1	520	sb210r	A2-5	-	10001304
2	520	sb120r	A2-5	-	10001305
3	530	sb130r	A2-8	-	10001306
4	530	sb140r	A2-8	-	10001307

Incl. drawtube adapter and flange for direct assembly on the rotary indexing table.

MANDO T212 mandrel for pl Lehmann rotary indexing tables. Pull-back / without draw bolt

Size	Type	Segmentspannbüchse	Spindle nose	In stock	Material no.
XXS	507	sb2xxsr	HSK-A63	-	10001308
XS	507	sb2xsr	HSK-A63	-	10001309
S	510	sb2sr	HSK-A63	-	10001310
0	510	sb200r	HSK-A63	-	10001311
1	520	sb210r	A2-5	-	10001312
2	520	sb220r	A2-5	-	10001313
3	530	sb230r	A2-8	-	10001314
4	530	sb240r	A2-8	-	10001315

Incl. drawtube adapter and flange for direct assembly on the rotary indexing table.

MANDO T812 mandrel for pl Lehmann rotary indexing tables. Deadlength / without draw bolt

Size	Type	Segmentspannbüchse	Spindle nose	In stock	Material no.
XXS	507	sb2xxsr	HSK-A63	-	10001316
XS	507	sb2xsr	HSK-A63	-	10001317
S	510	sb2sr	HSK-A63	-	10001318
0	510	sb200r	HSK-A63	-	10001319
1	520	sb210r	A2-5	-	10001320
2	530	sb220r	A2-6	-	10001321
3	530	sb230r	A2-8	-	10001322
4	530	sb240r	A2-8	-	10001323

Includes drawtube adapter and flange for direct mounting on the rotary table.
We can also offer other sizes for your Lehmann partial axis size.
MAXXOS mandrel is likewise available on request.