

TSF-C

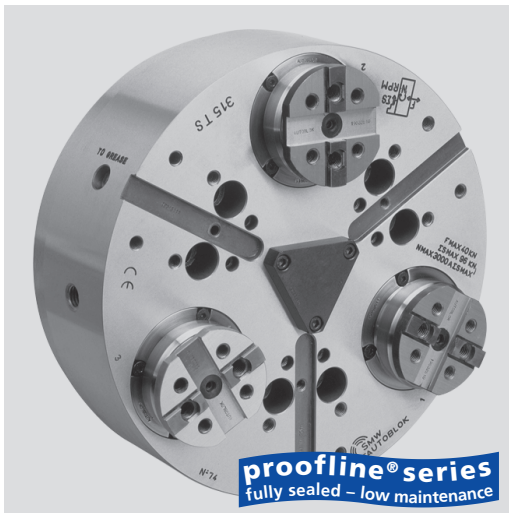
Self centering
Floating jaws

TSR-C

Self centering
Rigid jaws

High precision pull-down chucks \varnothing 135 - 650 mm

- Active pull-down
- Tongue & groove
- 3 jaws



Application/customer benefits

- Clamping of workpieces with highest demand for **parallelism**
- **Highest productivity** with long maintenance intervals
- Constant grip force and long lifetime ensure **constant quality of workpieces**

TSF-C: Floating base jaws to clamp raw and easy deformed workpieces (6-point-contact)

TSR-C: Rigid base jaws for precise clamping on pre machined diameters

Technical features

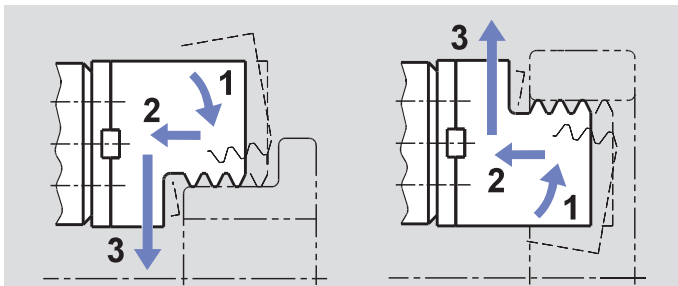
- Active pull-down
- Centrifugal force compensation
- TONGUE & GROOVE base jaws
- Central bore for coolant and / or air
- Permanent grease lubrication
- **proofline® chucks** = fully sealed – low maintenance

Standard equipment

3 jaw chuck
Mounting bolts

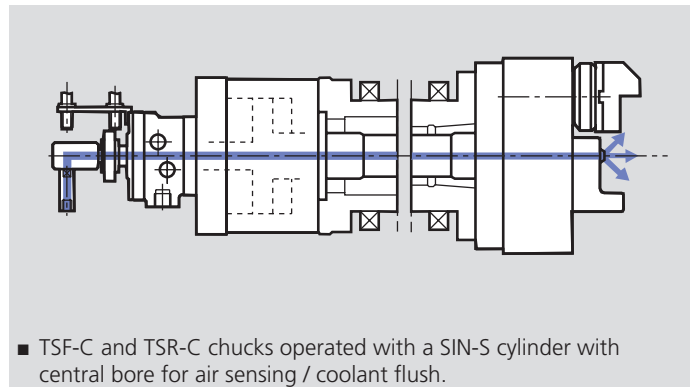
Ordering example

3 jaw chuck TSF-C 210 / A6
or
3 jaw chuck TSR-C 315 / Z220



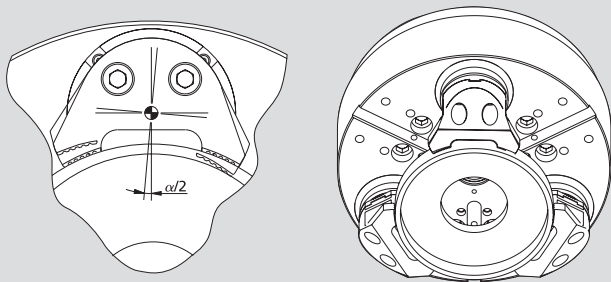
Principle of function:

- 1 pre-clamping - 2 active pull-down - 3 clamping
- For O.D. and I.D. clamping.



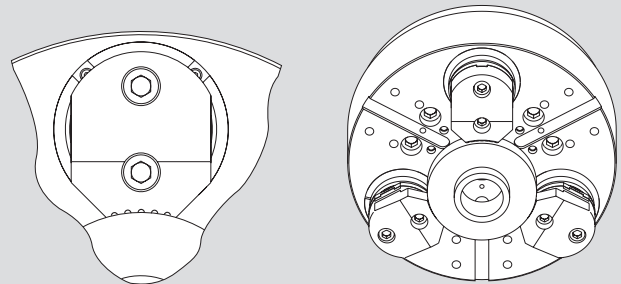
- TSF-C and TSR-C chucks operated with a SIN-S cylinder with central bore for air sensing / coolant flush.

TSF-C



TSF-C: Floating jaws for clamping raw / easy deformed workpieces with 6-point-contact.

TSR-C



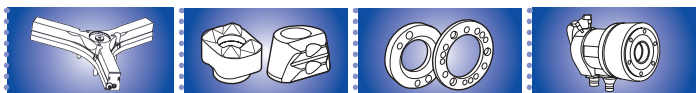
TSR-C: Rigid jaws for precise clamping on premachined diameters with 3-point-contact.

Technical data

SMW-AUTOBLOK Type		TSF-C 135	TSF-C 170	TSF-C 210	TSF-C 250	TSF-C 315	TSF-C 400	TSF-C 530	TSF-C 650
		TSR-C 135	TSR-C 170	TSR-C 210	TSR-C 250	TSR-C 315	TSR-C 400	TSR-C 530	TSR-C 650
Angular jaw stroke U°	deg.	5°	5.2°	5.2°	4.9°	4.9°	4.7°	4.7°	5°
Radial jaw stroke at distance h	mm	3.4	5.3	6.3	7	7	7.5	7.5	9.8
Pull down movement (standard)	mm	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.4
Axial piston stroke	mm	16	21	25	25	25	30	30	32
Max. draw pull**	kN	12	18	25	40	40	50	60	100
Max. gripping force at distance h**	kN	29	44	60	96	96	120	150	180
Max. speed*	r.p.m.	8000	5000	4500	3800	3000	2200	1800	1600
Weight (without top jaws)	kg	4.5	15	27	41	66	115	196	386
Moment of inertia	kg·m ²	0.015	0.06	0.16	0.34	0.83	2.3	7	21
Recommended actuating cylinders	SIN-S	70	85	100	125	125	150	150-175	150-175-200

* The above maximum speed is allowed with standard weight/height top jaws and applying the full draw pull only. For more informations please contact SMW-AUTOBLOK.

** For internal clamping reduce the draw pull by 30%.



on request:
Tooling Standard
Parts Catalog

SMW-AUTOBLOK
444

SMW-AUTOBLOK
438

SMW-AUTOBLOK
297

High precision pull-down chucks Ø 135 - 650 mm

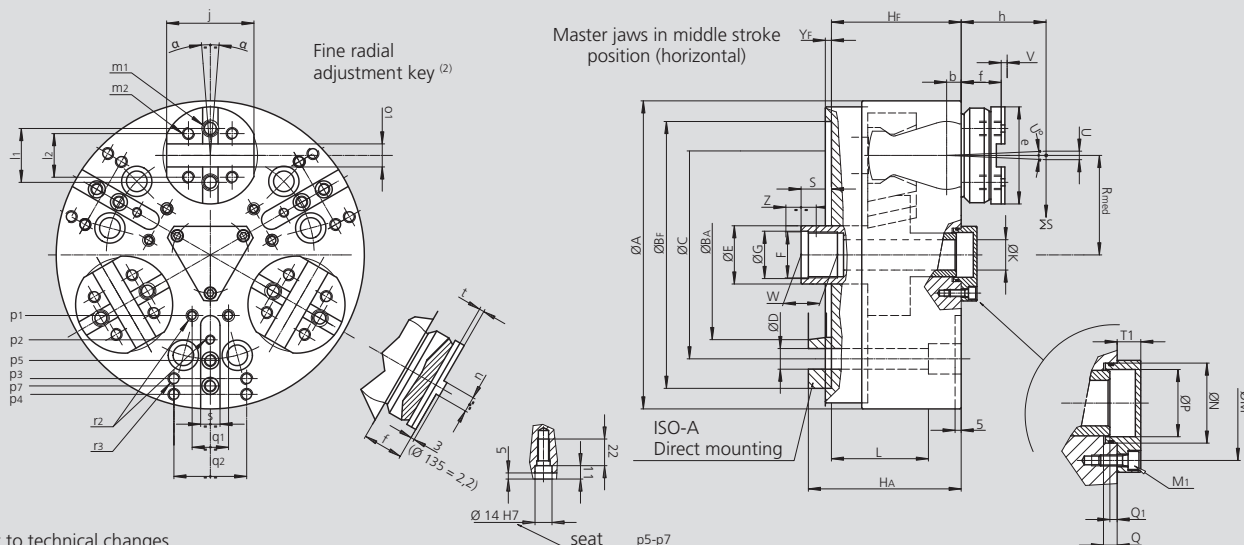
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Rigid jaws

- Active pull-down
- Tongue & groove
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Subject to technical changes.
For more detailed information please ask our customer service.

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SMW-AUTOBLOK Type			TSF-C 135		TSF-C 170			TSF-C 210		TSF-C 250		TSF-C 315		TSF-C 400		TSF-C 530		TSF-C 650		
			TSR-C 135		TSR-C 170			TSR-C 210		TSR-C 250		TSR-C 315		TSR-C 400		TSR-C 530		TSR-C 650		
Mounting			Z115	A4	Z140	A5	Z160	A6	Z170	A6	Z220	A8	Z220	A8	Z300	A11	Z380	A15	Z380	A15
	A	mm	135		173			212		254		315		390		535		650		
	Bf/BA H6	mm	115	65.513	140	82.563	160	106.375	170	106.375	220	139.719	220	139.719	300	196.869	380	285.775	380	285.775
	C	mm	82.6		104.8			133.4		171.4		171.4		235		330.2		330.2		
	D	mm	11		11.5			13.5		17		17		21		25		25		
	E	mm	25		36			38		48		48		75		75		100		
	F	mm	M20 x 1.5		M28 x 1.5			M32 x 1.5		M38 x 1.5		M38 x 1.5		M60 x 1.5		M60 x 1.5		M80 x 2		
	G H8	mm	20.5		29			33		39		39		61		61		81		
	Hf/HA	mm	64.5	72.5	83	98	83	100	100	117	107	126	107	126	127	148	132	155	155	178
Through hole	K	mm	8.3		14			18		25		25		52		52		75		
	L	mm	52.5		56			82		80		80		74		77		97		
	M	mm	41		36			42		63		63		90		90		128		
Thread / depth	M1	mm	M4 / 9		M5 / 13			M6 / 11		M6 / 12		M6 / 12		M8 / 17		M8 / 17		M8 / 17		
	N H8	mm	28		28			34		44		44		75		75		150		
	P	mm	16		23			28.5		37		37		66		66		101		
	Q	mm	6		6			5.5		7.5		7.5		9		9		19		
At middle stroke	Q1	mm	0.5		3			2		4		4		4		4		21		
At middle stroke	Rmed	mm	42		55			64		82		107		130		190		245		
At middle stroke	S	mm	8		18			20		25		25		25		20		20		
Radial stroke	T1	mm	10		10			13		13		13		15		15		15		
Radial stroke ⁽¹⁾ @ h	U	deg.	5°		5.2°			5.2°		4.9°		4.9°		4.7°		4.7°		5°		
Radial stroke ⁽¹⁾ @ h	U	mm	3.4		5.3			6.3		7		7		7.5		7.5		9.8		
Pull-down s/d (option)	V	mm	0.1		0.1 (0.6)			0.1 (0.6)		0.1 (0.6)		0.1 (0.6)		0.2 (0.8)		0.2 (0.8)		0.4		
	W	mm	17		25			25		25		25		25		25		36		
Axial wedge stroke	Z	mm	16		21			25		25		25		30		30		32		
Only TSF-C	α	deg.	±2°		±2°			±2°		±1.5°		±1.5°		±1.5°		±1.5°		±1.3°		
	b	mm	8		9			10		12		12		12		12		12		
	e	mm	38		60			75		80		80		105		105		127		
	f	mm	13.8		27			33		33		33		32		32		46		
Reference height	h	mm	39		50			60		70		70		80		80		100		
	j	mm	42		55			65		72		72		100		100		116		
	l1	mm	19		32			38		44.4		44.4		63.5		63.5		63.5		
	l2	mm	15		24			32		36		36		48		48		54		
Thread / depth	m1	mm	M6 / 10		M10 / 16			M12 / 18		M12 / 18		M12 / 18		M16 / 22		M16 / 22		M20 / 26		
Thread / depth	m2	mm	M5 / 12		M8 / 14			M10 / 14		M10 / 14		M10 / 14		M12 / 22		M12 / 22		M16 / 24		
	n h8	mm	6.35		7.94			7.94		12.7		12.7		12.7		12.7		12.7		
	o1 H7	mm	7.94		12.68			12.68		19.03		19.03		19.03		19.03		19.03		
	p1	mm	-		-			30		50		60		80		(*)		(*)		
	p2	mm	-		35			-		70		80		110		(*)		(*)		
	p3	mm	-		65			80		102		102		140		(*)		(*)		
	p4	mm	-		-			-		-		135		170		(*)		(*)		
	p5	mm	-		-			87		87		-		-		(*)		(*)		
	p7	mm	57.5		-			-		108		108		-		(*)		(*)		
Thread / depth	q1	mm	-		-			8		30		30		36		(*)		(*)		
Thread / depth	q2	mm	18		36			45		60		60		80		(*)		(*)		
	r2	mm	-		M6 / 12			M6 / 12		M8 / 15		M8 / 15		M10 / 19		(*)		(*)		
	r3	mm	M6 / 14		M8 / 17			M8 / 17		M10 / 19		M10 / 19		M12 / 22		(*)		(*)		
	s	mm	-		16			16		16		16		20		(*)		(*)		
	t	mm	3.2		4			4		4		4		7		7		7		
	yF	mm	5		5			5		5		5		5		5		6		

⁽¹⁾ Calculated at h distance from the chuck's face (where normally the clamping takes place).

* For chuck Ø 135, Ø 530-650 please ask for customer drawing.

⁽²⁾ SMW-AUTOBLOK 172: General catalog.