TSF-C

Self centering
Floating jaws

High precision pull-down chucks Ø 170 - 315 mm

- active pull-down
- tongue & groove
- 2 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 work pieces**

Technical features

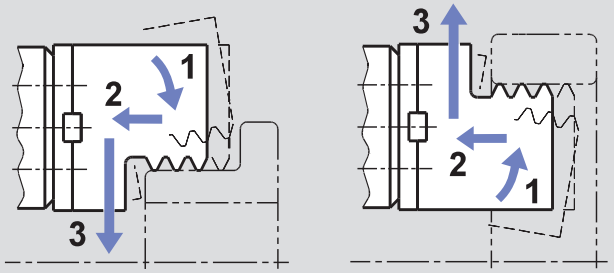
- 2-jaw-design
- active pull-down
- floating base jaws for 4 point contact
- centrifugal force compensation
- tongue & groove base jaws
- central bore for coolant and/or air
- permanent grease lubrication
- **proofline® chucks** = fully sealed – low maintenance

Standard equipment

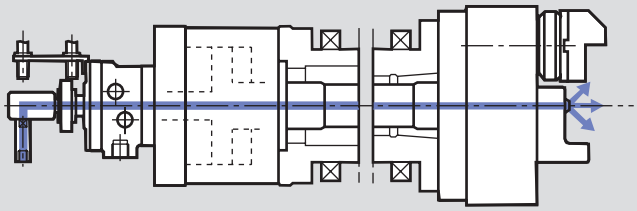
2-jaw-chuck
Mounting bolts and grease gun

Ordering example

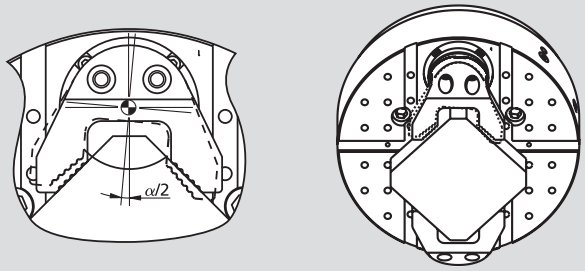
2-jaw-chuck TSF-C 210/A6



Principle of function:
- **1** pre-clamping - **2** active pull-down - **3** clamping
- For O.D. and I.D. clamping



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

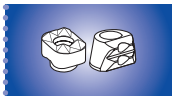


TSF-C: Floating jaws for clamping raw/asymmetrie workpieces with 4-point-contact

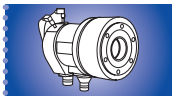
Technical data

SMW-AUTOBLOK Type		TSF-C 170	TSF-C 210	TSF-C 250	TSF-C 315
Angular jaw stroke	deg.	5.2°	5.2°	4.9°	4.9°
Radial jaw stroke at distance **h**	mm	5.3	6.3	7	7
Pull down movement (standard)	mm	0.1	0.1	0.1	0.1
Axial piston stroke	mm	21	25	25	25
Max. draw pull	kN	12	17	27	27
Max. gripping force at distance **h**	kN	30	40	64	64
Max. speed*	r.p.m.	5000	4500	3800	3000
Weight (plain back without top jaws)	kg	15	27	41	66
Moment of inertia ($m \cdot r^2$)	$kg \cdot m^2$	0.06	0.16	0.34	0.83
Recommended actuating cylinders		SIN-S 70	SIN-S 85	SIN-S 100	SIN-S 100

*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.


Page 310


Page 304


Page 217

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TSF-C

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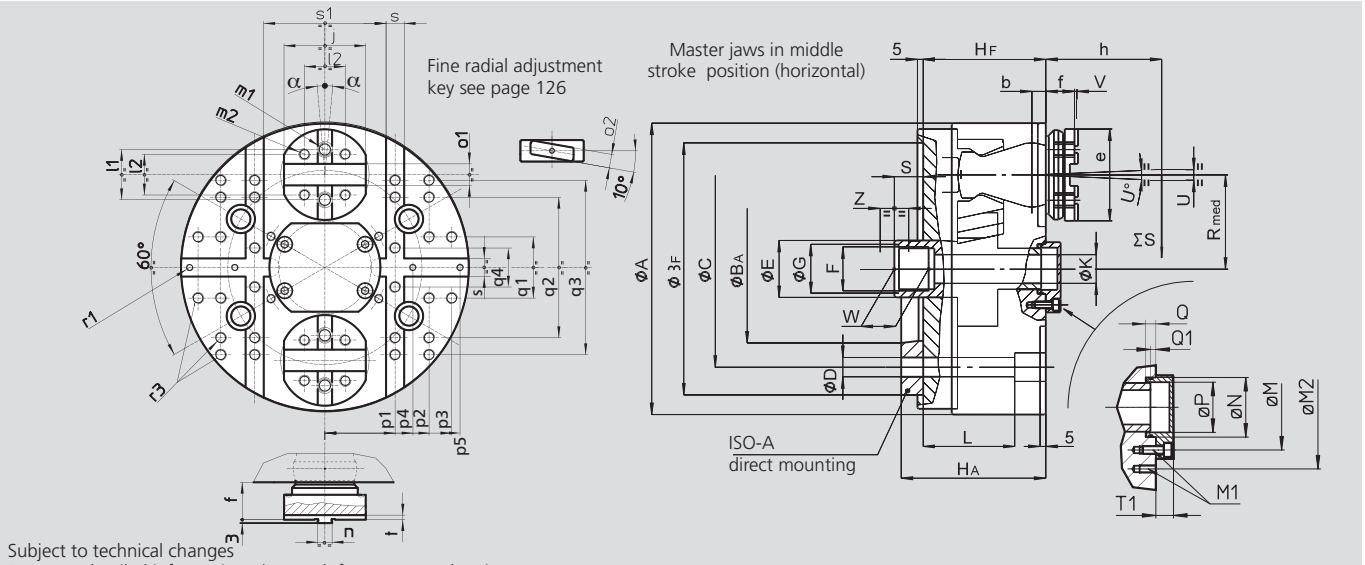
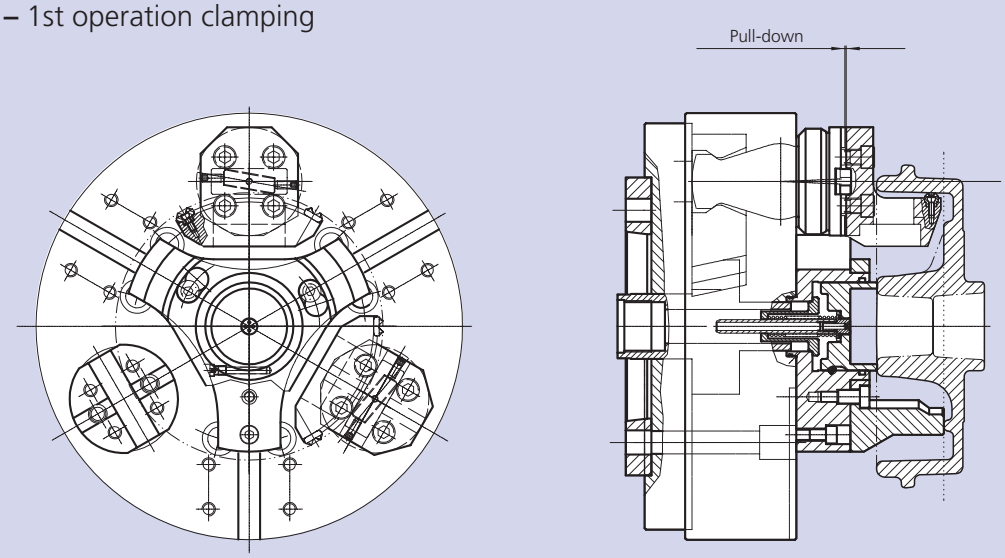


Subject to technical changes
For more detailed information please ask for customer drawing

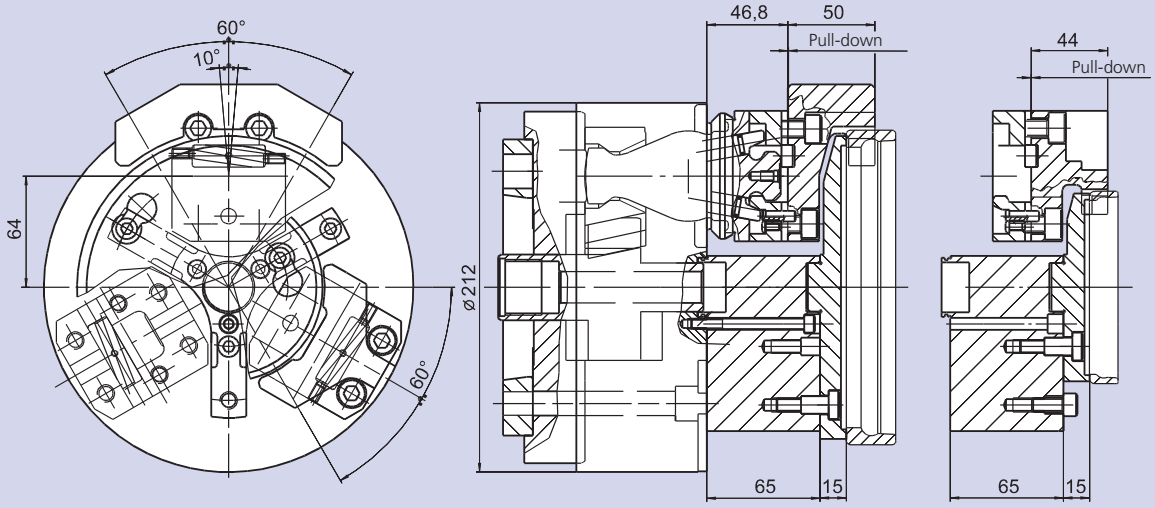
SMW-AUTOBLOK Type				TSF-C 170		TSF-C 210		TSF-C 250		TSF-C 315	
Mounting				Z140	A5	Z170	A6	Z220	A8	Z220	A8
	A		mm	173		212		254		315	
	BF/BA	H6	mm	140	82.563	170	106.375	220	139.719	220	139.719
	C		mm	104.8		133.4		171.4		171.4	
	D		mm	11.5		13.5		17		17	
	E		mm	36		38		48		48	
	F		mm	M28 x 1.5		M32 x 1.5		M38 x 1.5		M38 x 1.5	
	G	H8	mm	29		33		39		39	
	HF/HA		mm	83	98	100	117	107	126	107	126
Through-hole	**K**		mm	14		18		25		25	
	L		mm	56		82		80		80	
	M		mm	54		63		82		82	
Thread/depth	**M1**		mm	M8/16		M8/16		M8/16		M8/16	
	M2		mm	-		90		110		110	
	N	H5	mm	35		42		70		70	
	P		mm	30.2		36.5		56		56	
	Q		mm	6		7.5		7.5		7.5	
At middle stroke	**Q1**		mm	3.2		2.5		4.5		4.5	
At middle stroke	**Rmed**		mm	55		64		82		107	
At middle stroke	**S**		mm	18.2		20.5		25.5		25.5	
	T1		mm	11.5		14.5		14		14	
Radial stroke	**U°**		deg.	5.2°		5.2°		4.9°		4.9°	
Radial stroke (1) @ h	**U**		mm	5.3		6.3		7		7	
Pull-down s/d (option)	**V**		mm	0.1		0.1		0.1		0.1	
	W		mm	25		25		30		30	
Axial piston stroke	**Z**		mm	21		25		25		25	
	α		deg.	±2°		±2°		±1.5°		±1.5°	
	b		mm	9		10		12		12	
	e		mm	60		75		80		80	
	f		mm	27		33		33		33	
Reference height	**h**		mm	50		60		70		70	
	j		mm	55		65		72		72	
	l1		mm	32		38		44.4		44.4	
	l2		mm	24		32		36		36	
Thread/depth	**m1**		mm	M10/16		M12/18		M12/18		M12/18	
Thread/depth	**m2**		mm	M8/14		M10/14		M10/14		M10/14	
	n	h8	mm	7.94		7.94		12.7		12.7	
	o1	H7	mm	12.68		12.68		19.03		19.03	
	o2	h7	mm	9		9		12		12	
	p1		mm	50		55		62		62	
	p2		mm	66		80		92		92	
	p3		mm	78		95		112		122	
	p4		mm	60		55		62		62	
	p5		mm	80		80		92		92	
	q1		mm	30		30		54		54	
	q2		mm	84		110		128		128	
	q3		mm	-		-		-		202	
	q4		mm	20		30		54		54	
Thread/depth	**r1**		mm	M6/14		M6/14		M6/14		M6/14	
Thread/depth	**r3**		mm	M8/16		M8/17		M10/18		M10/18	
	s	H6	mm	16		16		16		16	
	s1	k5	mm	84		94		108		108	
	t		mm	4		4		4		4	

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

Brake drum – 1st operation clamping



Bearing ring – 2nd operation clamping



Bearing flange – Complete machining in one set-up