

TSF-CP

Compensating
Floating jaws

TSR-CP

Compensating
Rigid jaws

Compensating pull-down chuck \varnothing 135 - 650 mm

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

Application/customer benefits

- Clamping of shafts or chuck parts where the reference is not the O.D. but a center or a centering diameter
- A center point or a centering insert will center the workpieces and the jaws will clamp compensating and actively pull the workpiece down to the datum

TSF-CP: Compensating clamping with active pull down and floating base jaws

TSR-CP: Compensating clamping with active pull down and rigid base jaws

Technical features

- Active pull-down
- Compensating clamping
- 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-CP 210 / A6

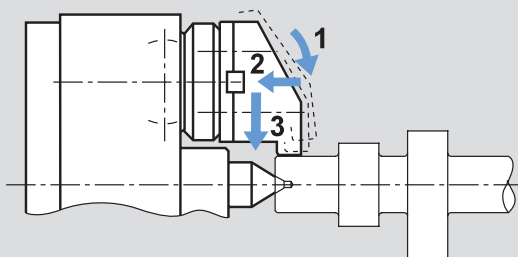
or

3-jaw chuck TSR-CP 315 / Z220



proofline® series
fully sealed - low maintenance

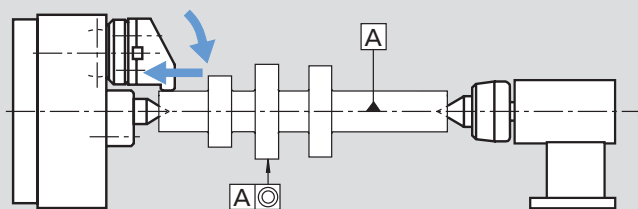
TSF-CP/TSR-CP



Principle of function:

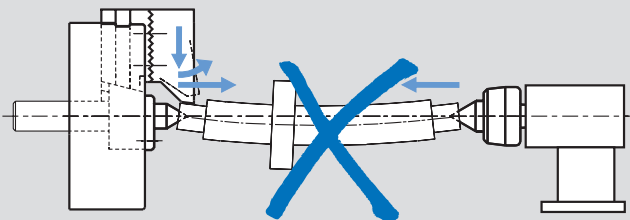
- 1 compensating pre-clamping - 2 active pull-down - 3 clamping

TSF-CP/TSR-CP



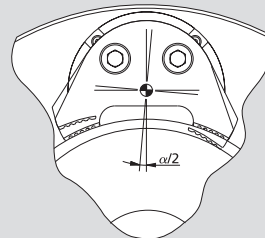
- The workpiece is actively pulled down to the center point. The tailstock just supplies the necessary force to support the workpiece. The result is an exact cylindrical and straight workpiece.

Non active pull down compensating chuck



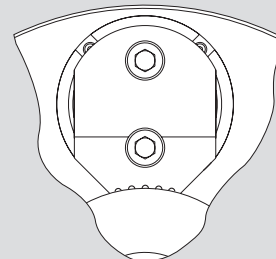
- The workpiece is lifted by the jaws from the center point. When a higher tailstock force is applied for compensation, the workpiece will be bent.

TSF-CP



Floating jaws

TSR-CP



Rigid jaws

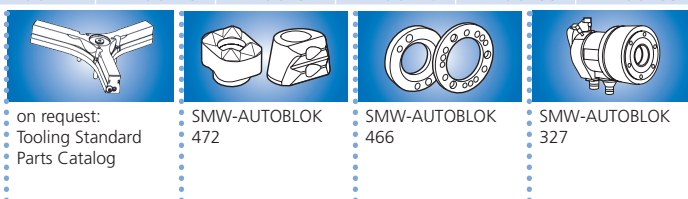
Technical data

SMW-AUTOBLOK Type		TSF-CP 135 TSR-CP 135	TSF-CP 170 TSR-CP 170	TSF-CP 210 TSR-CP 210	TSF-CP 250 TSR-CP 250	TSF-CP 315 TSR-CP 315	TSF-CP 400 TSR-CP 400	TSF-CP 530 TSR-CP 530	TSF-CP 650 TSR-CP 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
Compensation (on the dia.) at distance h	mm	±0.7	±1	±1.5	±2.5	±2.5	±2.5	±2.5	±3
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 (plain back 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
Id. No. TSF-CP (center mounting)		77196313	77196317***	77196321	77196325	77196331	77196340	77196353	77196365
Id. No. TSR-CP (center mounting)		77196413	77196417***	77196421	77196425	77196431	77196440	77196453	77196465

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

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

*** TSF-CP 170 Z140 / 170 Z160 77196318.
TSR-CP 170 Z140 / 170 Z160 77196418.



on request:
Tooling Standard
Parts Catalog

SMW-AUTOBLOK
472

SMW-AUTOBLOK
466

SMW-AUTOBLOK
327

Compensating pull-down chuck \varnothing 135 - 650 mm

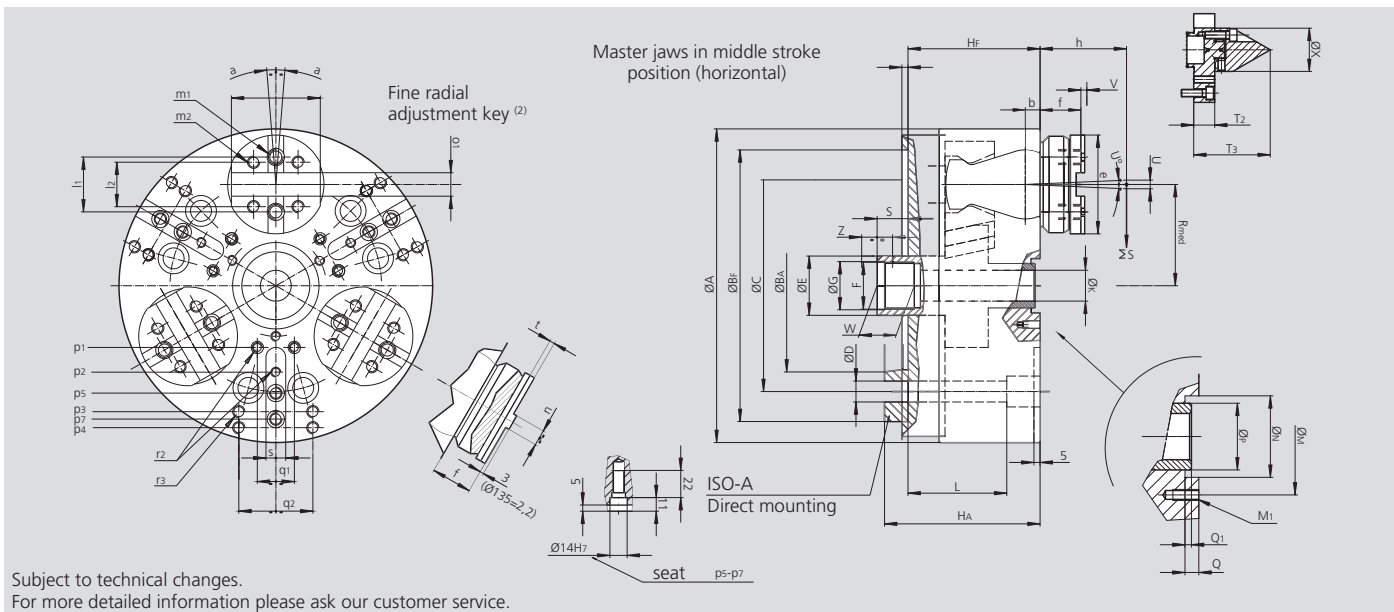
TSF-CP

TSR-CP

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

Compensating
Floating jaws

Compensating
Rigid jaws



Subject to technical changes.
For more detailed information please ask our customer service.

SMW-AUTOBLOK Type			TSF-CP 135 TSR-CP 135		TSF-CP 170 TSR-CP 170		TSF-CP 210 TSR-CP 210		TSF-CP 250 TSR-CP 250		TSF-CP 315 TSR-CP 315		TSF-CP 400 TSR-CP 400		TSF-CP 530 TSR-CP 530		TSF-CP 650 TSR-CP 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	63.513	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		13.5		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		4		12.5		25		25		52		52		75			
	L	mm	52.5		56		82		80		80		74		77		97			
	M	mm	41		36		42		82		-		90		90		128			
Thread / depth	M1	mm	M4 / 9		M5 / 10		M6 / 11		M8 / 17		-		M8 / 17		M8 / 17		M8 / 17			
	N H8	mm	28		28		34		70		85		75		75		150			
	P	mm	25		20		28		55		55		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			
	T2	mm	3.5		17		11		22		26		28		28		-			
	T3	mm	22.5		62		67		68		72		95		95		-			
Radial stroke	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		0.1		0.1		0.1		0.2		0.2		0.4			
	W	mm	17		25		25		25		25		25		25		36			
	X	mm	12		35		46		60		60		116		116		-			
Axial piston stroke	Z	mm	16		21		25		25		25		30		30		32			
Only TSF-CP max.	a	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		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		-		(*)		(*)			
	q1	mm	-		-		8		30		30		36		(*)		(*)			
	q2	mm	18		36		45		60		60		80		(*)		(*)			
Thread / depth	r2	mm	-		M6 / 12		M6 / 12		M8 / 15		M8 / 15		M10 / 19		(*)		(*)			
Thread / depth	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 \varnothing 135, \varnothing 530-650 please ask for customer drawing.

⁽²⁾ SMW-AUTOBLOK 192: General catalog.