

TSF-CP

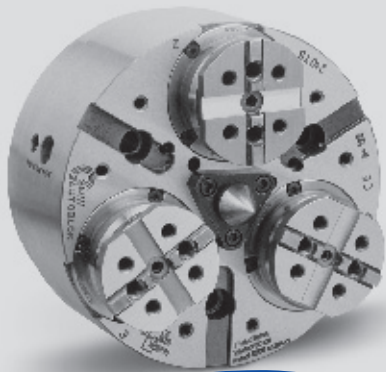
Compensating
Floating jaws

TSR-CP

Compensating
Rigid jaws

Compensating pull-down chucks \varnothing 170 - 650 mm

- active pull-down
- tongue & groove
- 3 jaws



proofline® series
fully sealed - low maintenance

Application/customer benefits

- Clamping of shafts or chuck parts where the reference is not the O.D. but a center or a centering dia.
- 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
- central bore for coolant and/or air
- tongue & groove base jaws
- permanent grease lubrication
- **proofline® chucks** = fully sealed – low maintenance

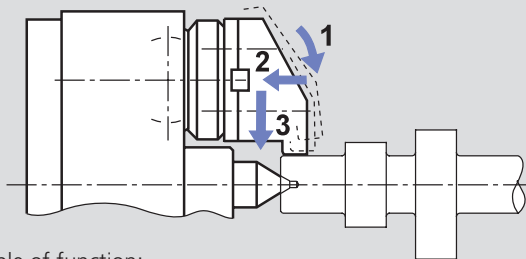
Standard equipment

3-jaw-chuck
mounting bolts and grease gun

Ordering example

TSF-CP 210/A6
or TSR-CP-315/Z220

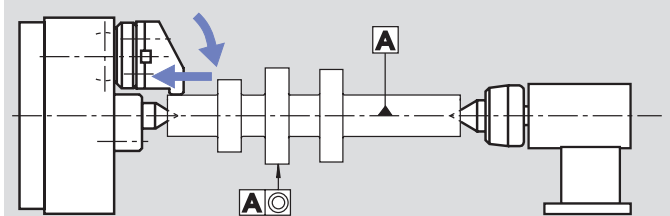
TSF-CP/TSR-CP



Principle of function:

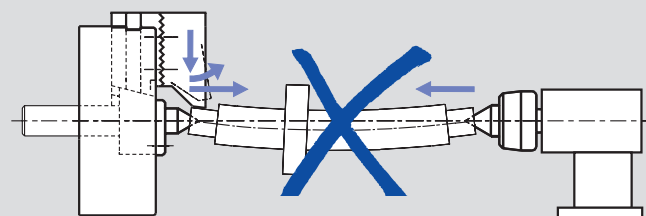
- 1 compensating pre-clamping - 2 active pull-down - 3 clamping

TSF-CP/TSR-CP



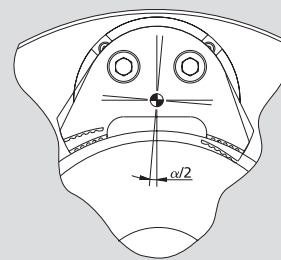
- The workpiece is actively pulled down to the center point. The tailstock just supplies the necessary force to support the workpiece. The result is an exact cylindrical and straight workpiece.

Non active pull down compensating chuck



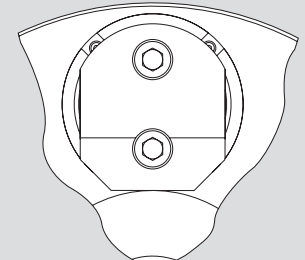
- The workpiece is lifted by the jaws from the center point. When a higher tailstock force is applied for compensation, the workpiece will be bent.

TSF-CP



floating jaws

TSR-CP



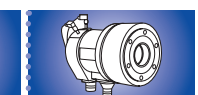
rigid jaws

Technical data

SMW-AUTOBLOK Type		TSF-CP 170	TSF-CP 210	TSF-CP 250	TSF-CP 315	TSF-CP 400	TSF-CP 530	TSF-CP 650
		TSR-CP 170	TSR-CP 210	TSR-CP 250	TSR-CP 315	TSR-CP 400	TSR-CP 530	TSR-CP 650
Angular jaw stroke	deg.	5.2°	5.2°	4.9°	4.9°	4.7°	4.7°	5°
Radial jaw stroke at distance h	mm	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	0.2	0.2	0.4
Axial piston stroke	mm	21	25	25	25	30	30	32
Compensation (on the dia.) at distance h	mm	±1	±1.5	±2.5	±2.5	±2.5	±2.5	±3
Max. draw pull**	kN	18	25	40	40	50	60	100
Max. gripping force** at distance h	kN	44	60	96	96	120	150	180
Max. speed*	r.p.m.	5000	4500	3800	3000	2200	1800	1600
Weight (plain back without top jaws)	kg	15	27	41	66	115	196	386
Moment of inertia	kg·m ²	0.06	0.16	0.34	0.83	2.3	7	21
Recommended actuating cylinders		SIN-S 85	SIN-S 100	SIN-S 125	SIN-S 125	SIN-S 150	SIN-S 150-175	SIN-S 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

Page 330

Page 324

Page 225

Compensating pull-down chucks \varnothing 170 - 650 mm

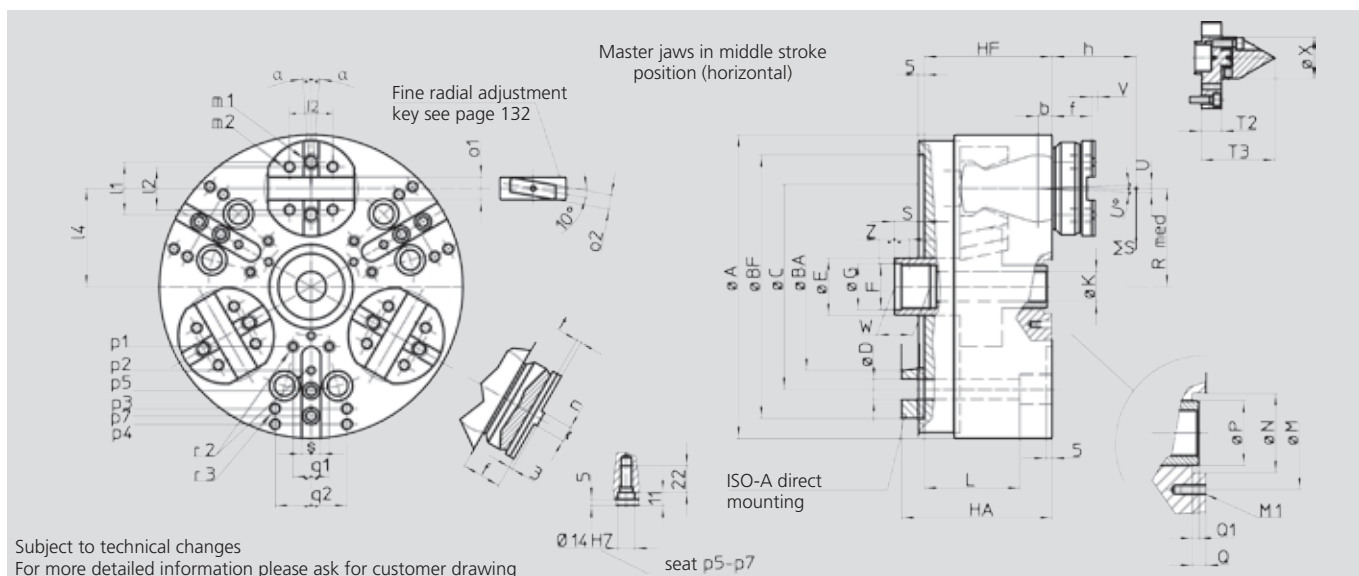
- active pull-down
- tongue & groove
- 3 jaws

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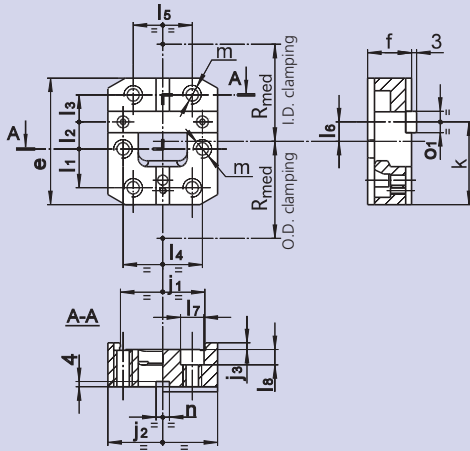
SMW-AUTOBLOK Type	TSF-CP 170 TSR-CP 170				TSF-CP 210 TSR-CP 210		TSF-CP 250 TSR-CP 250		TSF-CP 315 TSR-CP 315		TSF-CP 400 TSR-CP 400		TSF-CP 530 TSR-CP 530		TSF-CP 650 TSR-CP 650	
	Z140	A5	Z160	A6	Z170	A6	Z220	A8	Z220	A8	Z300	A11	Z380	A15	Z380	A15
Mounting																
A	mm 173															
Bf/BA H6	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 104.8 133.4 133.4 171.4 171.4 235 330.2 330.2															
D	mm 11.5 13.5 13.5 17 17 21 25 25															
E	mm 36 38 48 48 75 75 100															
F	mm 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 29 33 39 39 61 61 81															
Hf/HA	83	98	83	100	100	117	107	126	107	126	127	148	132	155	155	178
Through-hole K	mm 4 12.5 25 25 52 52 75															
L	mm 56 82 80 80 74 77 97															
M	mm 36 42 82 - 90 90 128															
Thread/depth M1	mm M5/10 M6/11 M8/17 - M8/17 M8/17 M8/17															
N H8	mm 28 34 70 85 75 75 150															
P	mm 20 28 55 55 66 66 101															
Q	mm 6 5.5 7.5 7.5 9 9 19															
At middle stroke Q1	mm 3 2 4 4 4 4 21															
At middle stroke Rmed	mm 55 64 82 107 130 190 245															
At middle stroke S	mm 18 25 25 25 25 20 20															
T2	mm 17 11 22 26 28 28 -															
T3	mm 62 67 68 72 95 95 -															
Radial stroke U°	deg. 5.2° 5.2° 4.9° 4.9° 4.7° 4.7° 5°															
Radial stroke (1)@hU	mm 5.3 6.3 7 7 7.5 7.5 9.8															
Pull-down s/d (opt.) V	mm 0.1 0.1 0.1 0.1 0.2 0.2 0.4															
W	mm 25 25 25 25 25 25 36															
X	mm 35 46 60 60 116 116 -															
Axial piston stroke Z	mm 21 25 25 25 30 30 32															
Only TSF-CP max. α	deg. ±2° ±2° ±1.5° ±1.5° ±1.5° ±1.5° ±1.3°															
b	mm 9 10 12 12 12 12 12															
e	mm 60 75 80 80 105 105 127															
f	mm 27 33 33 33 32 32 46															
Reference height h	mm 50 60 70 70 80 80 100															
j	mm 55 65 72 72 100 100 116															
l1	mm 32 38 44.4 44.4 63.5 63.5 63.5															
l2	mm 24 32 36 36 48 48 54															
Thread/depth m1	mm M10/16 M12/18 M12/18 M12/18 M16/22 M16/22 M20/26															
Thread/depth m2	mm M8/14 M10/14 M10/14 M10/14 M12/22 M12/22 M16/24															
n h8	mm 7.94 7.94 12.7 12.7 12.7 12.7 12.7															
o1 H7	mm 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 (*) (*) (*)															
p3	mm 65 80 102 102 (*) (*) (*)															
p4	mm - - 135 (*) (*) (*)															
p5	mm - 87 87 - (*) (*) (*)															
p7	mm - - 108 108 (*) (*) (*)															
Thread/depth q1	mm - 8 30 30 (*) (*) (*)															
Thread/depth q2	mm 36 45 60 60 (*) (*) (*)															
r	mm M6/12 M6/12 M8/15 M8/15 (*) (*) (*)															
r3	mm M8/17 M8/17 M10/19 M10/19 (*) (*) (*)															
s	mm 16 16 16 16 (*) (*) (*)															
t	mm 4 4 4 4 7 7 7															
yF	mm 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 400-530-650 please ask for customer drawing

Accessories for TS chucks

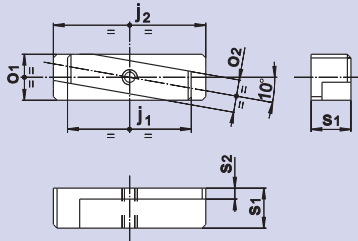
- quick jaw change pallets
- cross keys for top jaws fine adjustment

Quick change pallets for TSF-RM and TSR-RM chucks



Chuck type	170 TSF-RM 170 TSR-RM	210 TSF-RM 210 TSR-RM	250 TSF-RM 250 TSR-RM	315 TSF-RM 315 TSR-RM	400/530 TSF-RM 400/530 TSR-RM
Id. No.	19701716	19702116	19702516	19702516	19704016
e mm	60	75	80	80	105
f mm	21.5	26	28	28	34
j1 mm	44	50	55	55	80
j2 mm	55	65	72	72	100
j3 mm	3.5	4	4	4	4
k mm	39.5	49	51	51	66.5
l1 mm	19	23	22	22	28
l2 mm	12.5	16	19	19	25
l3 mm	12.5	16	19	19	25
l4 mm	42	47	52	52	74
l5 mm	32	35	40	40	62
l6 mm	9.5	11.5	11	11	14
l7 mm	11	14	14	14	17
l8 mm	7	9	9	9	11
m mm	M8	M10	M10	M10	M12
n (H7) mm	7.94	7.94	12.7	12.7	12.7
o1 (h7) mm	12.68	12.68	19.03	19.03	19.03
Rmed mm	55	64	82	107	130

Cross keys for jaw radial fine adjustment



- Inclined key for radial fine adjustment of the top jaws, used when high concentricity for second operations is required.

- Used in second operation and sometimes in first or unique operations.

Chuck Ø	170	210	250	315	400/530
Id. No.	15711633	15712133	15712533	15712533	15714033
j1 mm	24	32	38	38	46
j2 mm	38	46	56	56	70
o1 (h7) mm	12.68	12.68	19.03	19.03	19.03
o2 (h7) mm	9	9	12	12	12
s1 mm	11	11	11	11	14.5
s2 mm	3	3	3	3	4.5