AL-D
INCH serration

AL-M
METRIC serration

High precision power chucks Ø 125 - 400 mm

- closed center
- LONG STROKE
- 2 and 3 jaws (4 jaws only Ø 400 mm)

Application/customer benefits

- For chucking parts
- Suitable for vertical machines
- Long clamping stroke (possibility to clamp 1st and 2nd operation with the same jaws)

AL-D: Master jaws with INCH serration (1/16" x 90°, 3/32" x 90°)
AL-M: Master jaws with METRIC serration (1.5 mm x 60°)
(suitable for japanese jaws)

Technical features

- Extra long jaw stroke
- Gripping force transmission via wedge hook
- Case hardened body to assure greatest precision and long chuck life

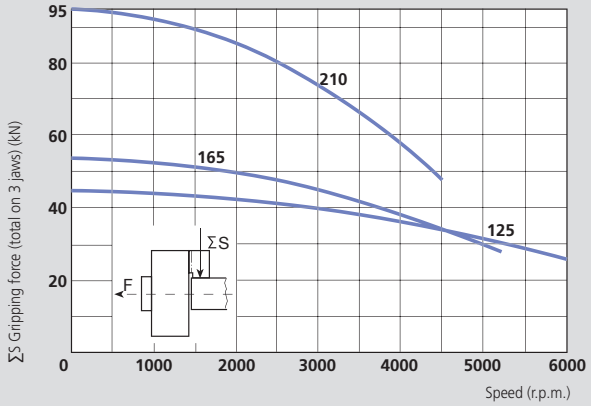
Standard equipment

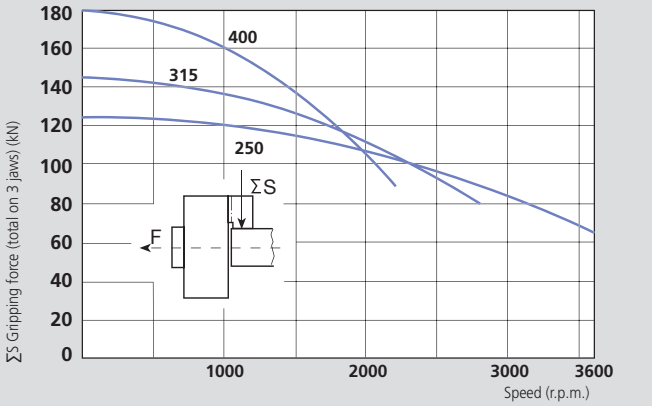
2, 3 or 4 jaw chuck
1 set T-nuts with bolts
1 set soft top jaws
Mounting bolts
Grease gun

Ordering example

3 jaw chuck AL-D 210/A6
or
2 jaw chuck AL-M 250/Z220

Actual gripping force diagrams





The data in the diagrams refer to 3-jaw-chucks, newly maintained according to their service manuals using SMW-AUTOBLOK K05 grease.The static and dynamic gripping forces have been measured using standard soft top jaws, placed in a position not exceeding the outer diameter of the chuck.

⚠ Safety advice/danger of damage:
When using taller/heavier jaws and/or clamping on a bigger diameter reduce draw pull/rotating speed accordingly.

Technical data

SMW-AUTOBLOK Type		AL-D 125 AL-M 125		AL-D 165 AL-M 165		AL-D 210 AL-M 210		AL-D 250 AL-M 250		AL-D 315 AL-M 315		AL-D 400 AL-M 400		
Number of jaws		2	3	2	3	2	3	2	3	2	3	2	3	4
Radial jaw stroke	mm	6		7		8.5		10		12		13		
Axial piston stroke	mm	15		17		21		25		30		33		
Max. draw pull	kN	17	25	20	30	35	53	45	68	54	80	67	100	100
Max. gripping force	kN	30	45	36	54	63	95	83	125	97	145	120	180	180
Max. speed	r.p.m.	6000		5200		4500		3600		2800		2000		1700
Weight (without top jaws)	kg	5.5		9.5		19		32		56		84		
Moment of inertia	kg·m²	0.011		0.032		0.105		0.26		0.69		1.6		
Recommended actuating cylinders		SIN-S 85/100		SIN-S 100		SIN-S 100/125		SIN-S 125/150		SIN-S 125/150		SIN-S 150/175		

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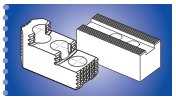
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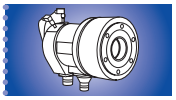
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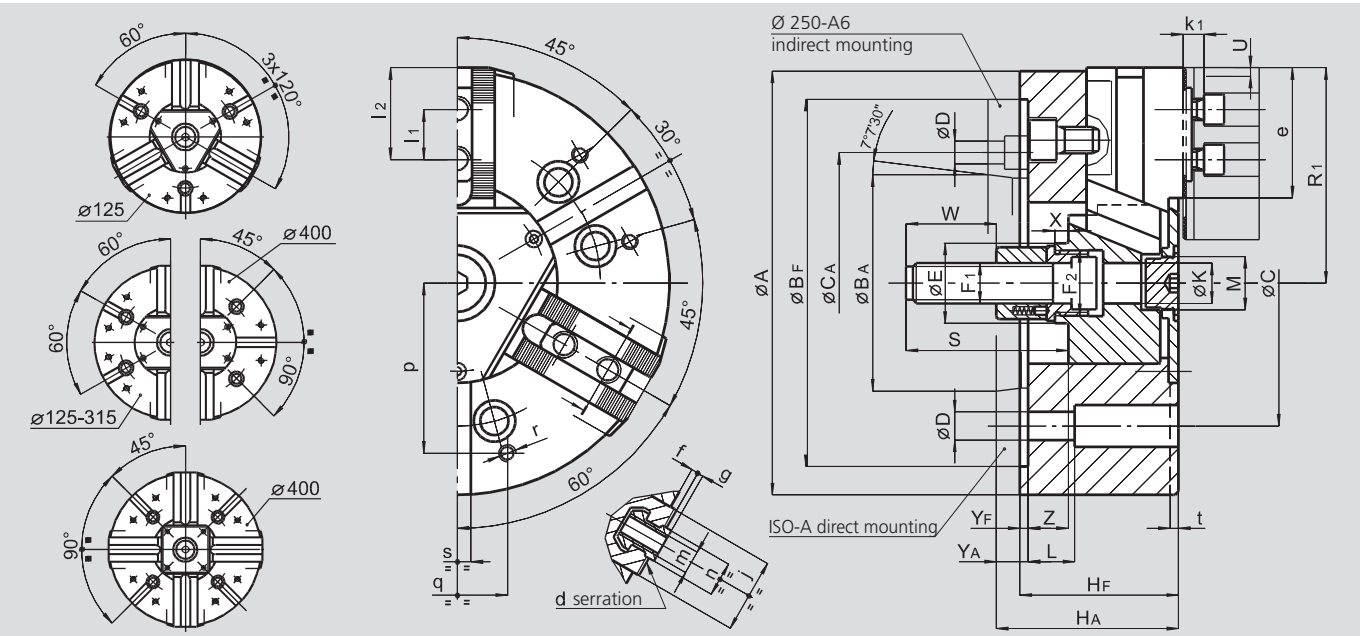
AL-D INCH serration

AL-M METRIC serration



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

SMW-AUTOBLOK Type			AL-D 125 AL-M 125		AL-D 165 AL-M 165		AL-D 210 AL-M 210		AL-D 250 AL-M 250			AL-D 315 AL-M 315		AL-D 400 AL-M 400	
Mounting			**Z115**	**A4**	**Z140**	**A5**	**Z170**	**A6**	**Z220**	**A6**	**A8**	**Z220**	**A8**	**Z300**	**A11**
	A	mm	127		165		210		254			315		390	
	BF/BA H6	mm	115	63.513	140	82.563	170	106.375	220	106.375	139.719	220	139.719	300	196.869
	C	mm	82.6		104.8		133.4		171.4	–	171.4	171.4		235	
	CA	mm	–	–	–	–	–	–	–	133.4	–	–	–	–	–
	D	mm	11.5		11.5		13.5		17	13.5	17	17		21	
	E	mm	25		32		41		47			47		86	
	F1	mm	M12 x 1.25		M16		M20		M24			M24		M24	
	F2	mm	M18 x 1.5		M24 x 2		M32 x 1.5		M38 x 1.5			M38 x 1.5		M75 x 2	
	HF/HA	mm	59	67	71	81	85	97	95	114	109	105	119	116	131
	K	mm	9		17		20		25			25		65	
	L	mm	32		23		32		28			38		54	
	M	mm	M16 x 1.5		M24 x 1.5		M32 x 1.5		M32 x 1.5			M38 x 1.5		M68 x 2	
Chuck open	**R1**	mm	67		86		109		133			164		202	
	S	mm	77		104		97		103			103		105	
Jaw stroke	**U**	mm	6		7		8.5		10			12		13	
	W	mm	40		52		55		60			60		60	
	X	mm	12		17		8		8			8		8	
	YF/YA	mm	5	13	5	15	5	17	5	24	19	5	19	6	21
max./min.	**Z**	mm	15/0		17/0		21/0		24/-1			30/0		33/0	
AL-D	**d**	inch	1/16" x 90°		1/16" x 90°		1/16" x 90°		1/16" x 90°			1/16" x 90°		3/32" x 90° (1)	
AL-M	**d**	mm	1.5 x 60°		1.5 x 60°		1.5 x 60°		1.5 x 60°			1.5 x 60°		1.5 x 60°	
	e	mm	37		49		61		77			99		116	
	f	mm	3		4		3		4			4		6	
	g	mm	2.5		2.5		3		3.5			3.5		3.5	
	j	mm	26		30		36		45			45		62	
	k1	mm	10		10		11		12			12		14	
AL-D	**l1**	mm	16		16.5		23		30			30		38	
AL-M	**l1**	mm	16		20		25		30			30		38	
max./min.	**l2**	mm	30/23		40/24		50/33		62/43			84/43		90/49	
AL-D	**m**	mm	M8		M10		M12		M16			M16		M20	
AL-M	**m**	mm	M8		M10		M12		M12			M16		M20	
AL-D	**n** h8	mm	12		14		17		21			21		25.5	
AL-M	**n** h8	mm	12		12		14		16			21		22	
	p	mm	52		65		80		102			120		150	
	q	mm	30		36		45		60			60		80	
	r	mm	M6		M8		M8		M10			M10		M12	
	s	mm	12		16		16		16			16		20	
	t	mm	5		5		5		5			5		5	

(1) serration 1/16 x 90° on request