

Technology at the highest level: **The SMW-AUTOBLOK** **HFKN**

Easy lubrication
even on vertical machines
with 3 radial built-in
grease fittings

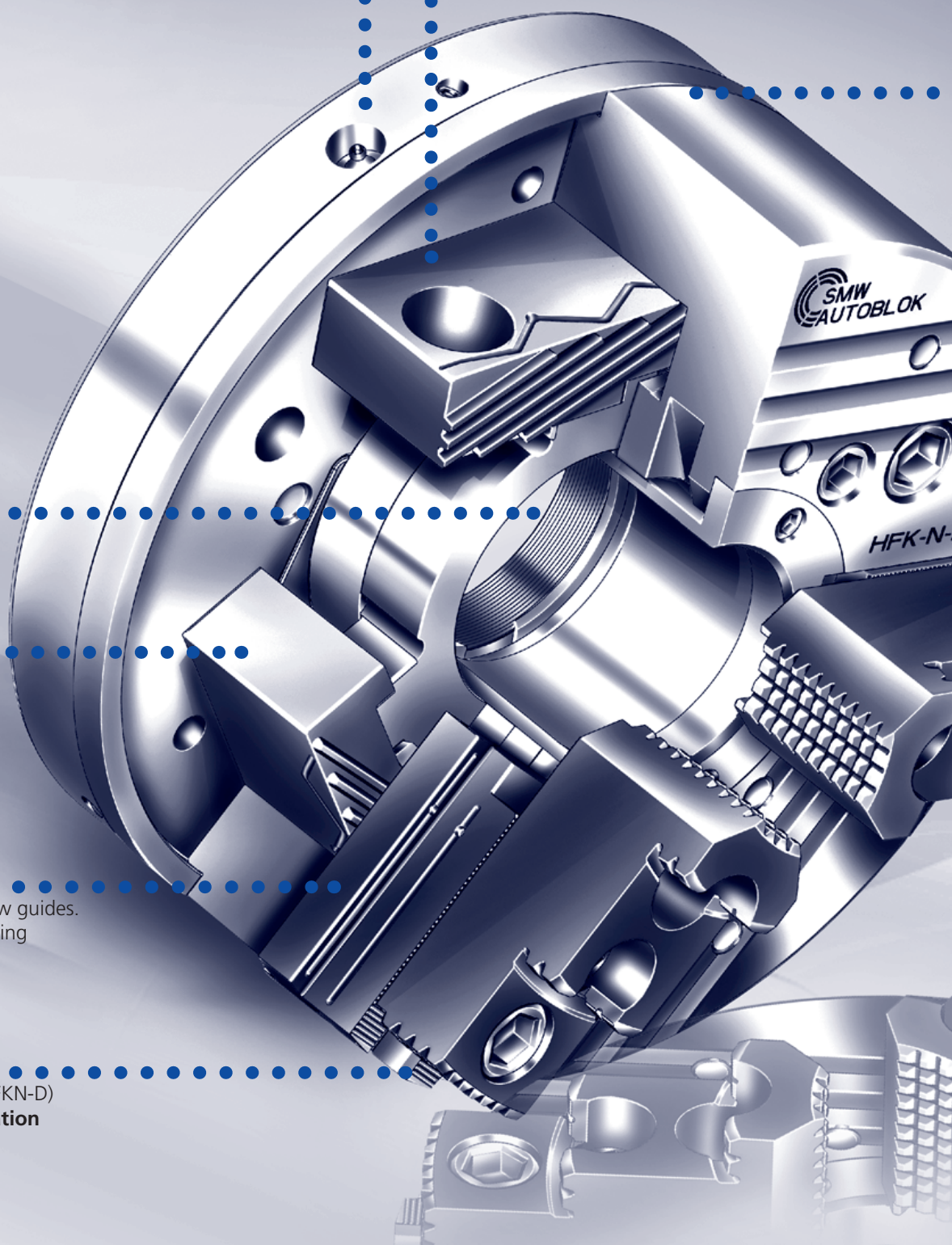
- **Wedge bar drive,**
- minimum loss in gripping force
- even at high speeds because of
- tangentially supported wedge bars.
- Minimum increase of gripping force
- (**hysteresis**) after quick spindle stop

Large through hole
for full use of
spindle bore

High **efficiency** of
the wedge bar drive
ensures highest
concentricity and
repeatability

Extra long, symmetrical jaw guides.
Ideal for O.D. or I.D. gripping

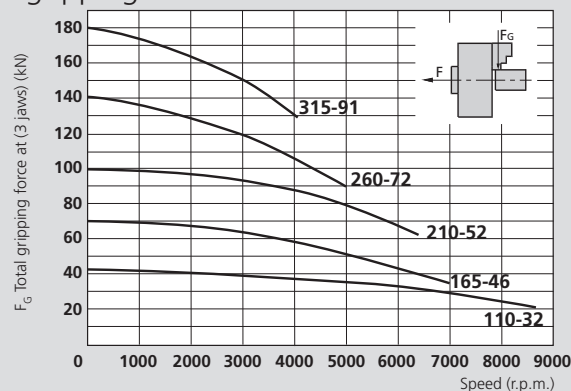
Master jaws with **inch** (HFKN-D)
or **metric** (HFKN-M) **serration**



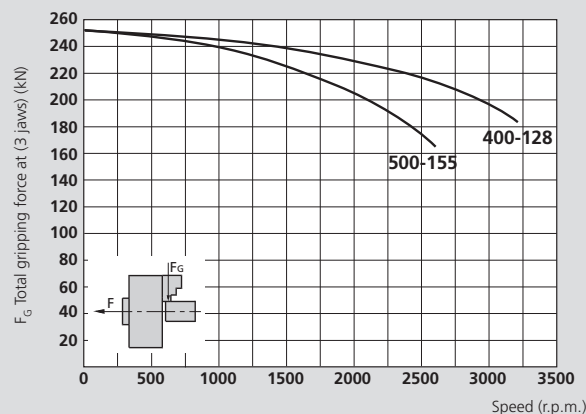
wedge bar drive

Chuck body and internal parts are **case hardened and polished** for highest rigidity, durability and precision

For high speeds
Flat gripping force curve



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.

Clamping glossary

Case hardening: The surface of the components is hardened (60 HRC) to a depth of about 1 mm (0.04"). The core shows a high tensile strength and toughness. Compared to partial inductive hardened and nitrited parts the rigidity and the resistance against wear is greatly increased.

Hysteresis: At high speeds the chuck body "grows" due to centrifugal force. The draw pull of the clamping cylinder causes an increase in gripping force which cannot be decreased at a quick spindle stop (or change in speed). This can cause deformation at easily deformed parts. SMW-AUTOBLOK chucks with wedge bar drive have a very low hysteresis.

Wedge bar drive: The chuck is driven by tangentially mounted wedge bars. This design allows highest repeatability and rigidity. These chucks have very low loss in gripping force due to centrifugal force. The design does not require counterbalance weights which allows highest speeds without vibration.

INCH SERRATION: The connection between top jaws and master jaws is done through serration, T-nuts and bolts according to DIN 6353 (serration 90°, pitch in inches). This is standard on European chucks. HFKN chucks can be supplied either with inch serration or metric serration.

METRIC SERRATION: The connection between top jaws and master jaws is done through serration, T-nuts and bolts according to ISO 9401 (serration 60°, pitch in mm). This is standard on Japanese chucks.

Efficiency: Efficiency is the ratio between the calculated theoretical gripping force (disregarding friction) and the actual (measured) gripping force.

HFKN-C

TONGUE & GROOVE

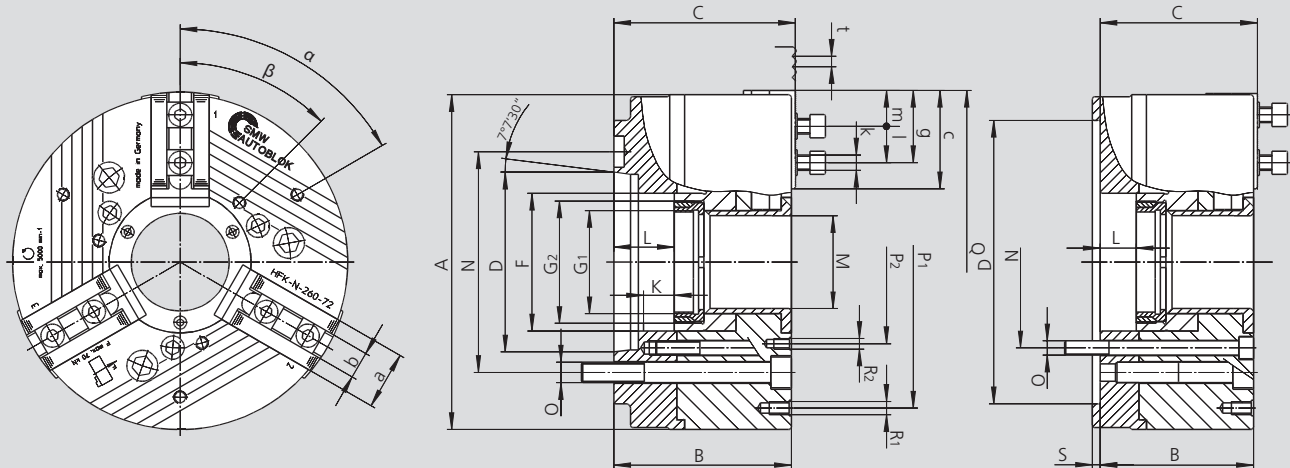
HFKN-D

INCH
SERRATION

HFKN-M

METRIC
SERRATION

Main dimensions and technical data



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

Type HFKN-D Type HFKN-M Type HFKN-C	110-32 - 110-32	165-46 165-46 -	210-52 210-52 -	260-72 260-72 -	315-91 315-91 -	400-128 400-128 -	500-155 500-155 -
Mounting	Z100 A4	Z140 A5 A6	Z170 A6 A8	Z170 Z220 A6 A8	Z220 Z300 A8 A11	Z300 Z380 A11 A15	Z380 A11 A15
	A 115	165	215	260	315	400	500
	B 64 75	90 105 107	102 119 121	119 119 136 138	127 127 146 148	143 143 164 166	157 178 180
	C 68.1 77.5	92.5 107.5 109.5	105 122 124	122 122 139 141	130 130 149 151	148 148 169 171	162 183 185
	D H6 100 63.51	140 82.57 106.39	170 106.39 139.73	170 220 106.39 139.73	220 300 139.73 196.88	300 380 196.88 285.77	380 196.88 285.77
	F 46	67	85	107	134	180	207
Threaded ring / depth	G1 *	*	M60 x 1.5 / 16	M80 x 2 / 20	M100 x 2 / 22	M138 x 2 / 22	M165 x 2 / 25
Piston thread / depth	G2 M38 x 1.5 / 15	M60 x 1.5 / 18	M75 x 2 / 19	M95 x 2 / 23	M120 x 2 / 25	M160 x 2 / 25	M185 x 2 / 28
Piston stroke	K 9	15	19	23	23	30	32
Max.	L 10.5 21.5	15 30 32	19 36 38	23 23 40 42	23 23 42 44	32 32 53 55	33 54 56
	M 32	46	52	72	91	128	155
Fixing bolt circle	N 82.6	104.8 104.8 133.4	133.4 133.4 171.4	133.4 171.4 133.4 171.4	171.4 235 171.4 235	235 330.2 235 330.2	330.2 235 330.2
Fixing bolt	O M10	M10 M10 M12	M12 M12 M16	M12 M16 M12 M16	M16 M20 M16 M20	M20 M24 M20 M24	M24 M20 M24
	P1 100	120	168	210	268	330	430
	P2 65	90	110	130	155	200	220
	Q 118	167	219	264	319	408	508
Thread / thread depth	R1 M6 / 12	M8 / 16	M10 / 20	M10 / 20	M10 / 20	M12 / 18	M16 / 25
Thread / thread depth	R2 M6 / 12	M8 / 16	M10 / 20	M10 / 20	M10 / 20	M12 / 18	M12 / 18
	S 6	6	6	6	6	8	8
	a 20	32	40	45	50	60	60
	b f7 8 (g6)	14	17	21	21	25.5	25.5
	c 34	47.5	69	75	92.5	115	150
	g 25	39	58.5	65.5	74	100	136
Bolt ISO 4762 12.9	k M6	M10	M12	M16	M16	M20	M20
	l 12	16	22	28	30	35	35
	m 2	5	6	8	8	10	10
HFKN-D inch serration	t 1/16" 90°	1/16" 90°	1/16" 90°	1/16" 90°	1/16" 90°	3/32" 90°	3/32" 90°
HFKN-M metric serration	t 1.5 x 60°	1.5 x 60°	1.5 x 60°	1.5 x 60°	1.5 x 60°	3 x 60°	3 x 60°
HFKN-C tongue & groove	S08 N08						
	α° 60	40	60	60	60	60	60
	β° 60	60	60	45	45	60	60

Stroke per jaw	mm	2.4	4	5.0	6.1	6.1	8.0	8.0
Max. actuating force	kN	20	35	53	70	95	125	125
Max. total gripping force	kN	40	70	100	140	190	250	250
Max. speed	r.p.m.	8500**	7000**	6300	5000	4200	3200	2600
Weight (without jaws)	kg	4.4 4.7	14 15 15	24 26 26	40 40 43 43	63 63 66 66	111 111 116 116	225 231 231
Moment of inertia	kg-m²	0.007	0.06	0.11	0.38	0.85	2.5	6.5

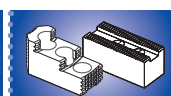
Rec. closed center cylinder	Type	SIN-S 85	SIN-S 100 / 125	SIN-S 125 / 150	SIN-S 150 / 175	SIN-S 150 / 175 / 200	SIN-S 175 / 200	SIN-S 175 / 200
Rec. open center cylinder	Type	VNK-T2 70-37	VNK-T2 102-46	VNK-T2 130-52	VNK-T2 170-77	VNK-T2 225-95	VNK-T2 320-127	VSG 450-165

* HFKN 110-32 and HFKN 165-46 available with fixed piston thread only.

** Higher speed with special top jaws only.



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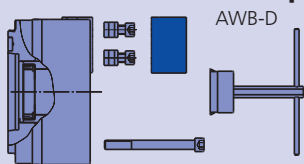
SMW-AUTOBLOK
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SMW-AUTOBLOK
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Ordering review HFKN-D (inch serration)

HFKN-D with soft top jaws AWB-D

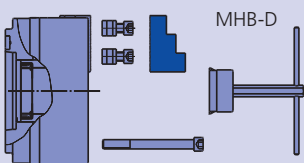


Supply range:

- Chuck + mounting bolts
- Soft top jaws AWB-D
- 1 set (= 6 pieces) T-nuts with bolts
- Key

Size Spindle mounting	HFKN-D 110-32	HFKN-D 165-46	HFKN-D 210-52	HFKN-D 260-72	HFKN-D 315-91	HFKN-D 400-128	HFKN-D 500-155
Centering rim	-	-	-	Z 170	Z 220	Z 300	Z 300
small	-	-	-	090316	090320	090324	090328
Centering rim	Z 100	Z 140	Z 170	Z 220	Z 300	Z 380	Z 380
large	065354	090310	090313	090317	090321	090325	090329
A 04	065355	-	-	-	-	-	-
A 05	-	090311	-	-	-	-	-
A 06	-	090312	090314	090318	-	-	-
A 08	-	-	090315	090319	090322	-	-
A 11	-	-	-	-	090323	090326	090330
A 15	-	-	-	-	-	090327	090331

HFKN-D with hardened reversible top jaws MHB-D



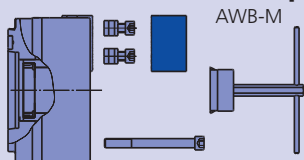
Supply range:

- Chuck + mounting bolts
- Hardened ground reversible top jaws MHB-D
- 1 set (= 6 pieces) T-nuts with bolts
- Key

Size Spindle mounting	HFKN-D 110-32	HFKN-D 165-46	HFKN-D 210-52	HFKN-D 260-72	HFKN-D 315-91	HFKN-D 400-128	HFKN-D 500-155
Centering rim	-	-	-	Z 170	Z 220	Z 300	Z 300
small	-	-	-	090338	090342	090346	090350
Centering rim	Z 100	Z 140	Z 170	Z 220	Z 300	Z 380	Z 380
large	065356	090332	090335	090339	090343	090347	090351
A 04	065357	-	-	-	-	-	-
A 05	-	090333	-	-	-	-	-
A 06	-	090334	090336	090340	-	-	-
A 08	-	-	090337	090341	090344	-	-
A 11	-	-	-	-	090345	090348	090352
A 15	-	-	-	-	-	090349	090353

Ordering review HFKN-M / -C (metric serration) / size 110 with tongue and groove

HFKN-M with soft top jaws AWB-M + HFKN-C

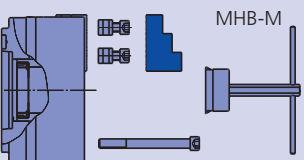


Supply range:

- Chuck + mounting bolts
- Soft top jaws AWB-M
- 1 set (= 6 pieces) T-nuts with bolts
- Key

Size Spindle mounting	HFKN-C 110-32	HFKN-M 165-46	HFKN-M 210-52	HFKN-M 260-72	HFKN-M 315-91	HFKN-M 400-128	HFKN-M 500-155
Centering rim	-	-	-	Z 170	Z 220	Z 300	Z 300
small	-	-	-	090360	090364	090368	090372
Centering rim	Z 100	Z 140	Z 170	Z 220	Z 300	Z 380	Z 380
large	065466	090354	090357	090361	090365	090369	090373
A 04	065467	-	-	-	-	-	-
A 05	-	090355	-	-	-	-	-
A 06	-	090356	090358	090362	-	-	-
A 08	-	-	090359	090363	090366	-	-
A 11	-	-	-	-	090367	090370	090374
A 15	-	-	-	-	-	090371	090375

HFKN-M with hardened reversible top jaws MHB-M



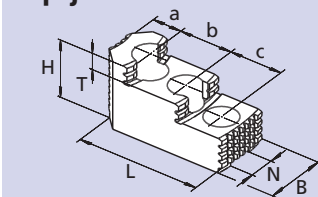
Supply range:

- Chuck + mounting bolts
- Hardened ground reversible top jaws MHB-M
- 1 set (= 6 pieces) T-nuts with bolts
- Key

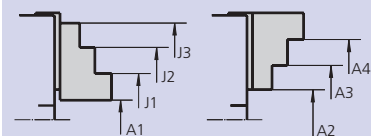
Size Spindle mounting		HFKN-M 165-46	HFKN-M 210-52	HFKN-M 260-72	HFKN-M 315-91	HFKN-M 400-128	HFKN-M 500-155
Centering rim		-	-	Z 170	Z 220	Z 300	Z 300
small		-	-	090382	090386	090390	090394
Centering rim		Z 140	Z 170	Z 220	Z 300	Z 380	Z 380
large		090376	090379	090383	090387	090391	090395
A 04		-	-	-	-	-	-
A 05		090377	-	-	-	-	-
A 06		090378	090380	090384	-	-	-
A 08		-	090381	090385	090388	-	-
A 11		-	-	-	090389	090392	090396
A 15		-	-	-	-	090393	090397

HFKN-D	HFKN-M	HFKN-C	
INCH SERRATION	METRIC SERRATION	TONGUE & GROOVE	Jaws

MHB-D (INCH SERRATION) Hardened reversible top jaws

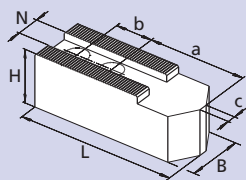


Clamping ranges



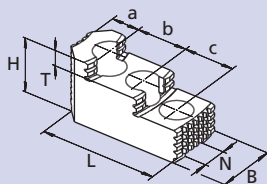
Chuck	HFKN-D 110	HFKN-D 165	HFKN-D 210	HFKN-D 260	HFKN-D 315	HFKN-D 400	HFKN-D 500
Jaw type	MHB-D	MHB-D	MHB-D	MHB-D	MHB-D	MHB-D	MHB-D
Id. No.	007076	12081636	12082036	12083036	12083036	12084546	12084546
Serration	1/16" x 90°	1/16" x 90°	1/16" x 90°	1/16" x 90°	1/16" x 90°	3/32" x 90°	3/32" x 90°
B	20	34	40	45	45	60	60
H	31	39	45	56	56	75	75
L	48	65	82	105	105	140	140
T	7	10	10.5	13.5	13.5	32	19
N	8	14	17	21	21	25.5	25.5
a	9.5	18	19	26	26	38	38
b	12	16	23	30	30	38	38
c	12	16	23	30	30	38	38
kg / set	0.35	0.9	1.71	2.85	2.85	7.5	7.5
A1	5-59	15-75	10-100	15-115	50-170	40-205	80-320
A2	15-70	-	-	-	-	-	-
A3	46-100	62-120	62-150	100-205	115-265	160-330	220-450
A4	70-125	110-175	140-230	185-285	200-350	260-420	320-560
J1	49-102	65-125	65-150	75-165	90-225	120-285	180-410
J2	72-126	115-175	135-230	150-250	160-310	220-385	280-510
J3	101-155	145-210	180-265	225-325	235-380	330-480	370-670

AWB-D (INCH SERRATION) Soft top jaws

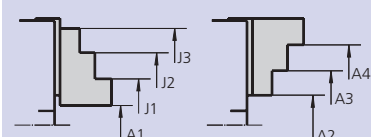


Chuck	HFKN-D 110	HFKN-D 165	HFKN-D 210	HFKN-D 260	HFKN-D 315	HFKN-D 400	HFKN-D 500
Jaw type	AWB-D	AWB-D	AWB-D	AWB-D	AWB-D	AWB-D	AWB-D
Id. No.	038258	035954	081616	081618	081618	081620	081620
Serration	1/16" x 90°	1/16" x 90°	1/16" x 90°	1/16" x 90°	1/16" x 90°	3/32" x 90°	3/32" x 90°
B	20	40	40	50	50	60	60
H	30	40	40	50	50	60	60
L	55	80	90	120	120	140	140
N	8	14	17	21	21	25.5	25.5
a	30	43	53	70	70	80	80
b	12	22	22	28	28	35	35
c	0	4	4	6	6	-	-
kg / set	0.55	2.0	2.7	5.1	5.1	9.65	9.65

MHB-M (METRIC SERRATION) Hardened reversible top jaws

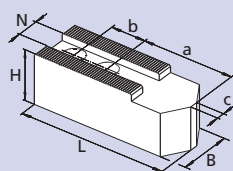


Clamping ranges



Chuck		HFKN-M 165	HFKN-M 210	HFKN-M 260	HFKN-M 315	HFKN-M 400	HFKN-M 500
Jaw type		MHB-M	MHB-M	MHB-M	MHB-M	MHB-M	MHB-M
Id. No.		12081627	12082127	12082627	12083037	auf Anfrage	auf Anfrage
Serration		1.5 x 60°	1.5 x 60°	1.5 x 60°	1.5 x 60°	3 x 60°	3 x 60°
B		34	40	45	45	55	55
H		39	45	56	56	73	73
L		67	86	100	105	145	145
T		10	10.5	15.5	13.5	32	32
N		12	14	16	21	25.5	25.5
a		14	19	23	26	46	46
b		20	25	30	30	38	38
c		20	25	30	30	38	38
kg / set		0.9	1.8	2.55	2.85	6.7	6.7
A1		15-75	10-100	15-115	50-170	40-190	80-320
A2		-	-	-	-	85-235	125-365
A3		62-120	62-150	100-205	115-265	-	-
A4		110-175	140-230	185-285	200-350	270-420	320-560
J1		65-125	65-150	75-165	90-225	150-300	180-420
J2		115-175	135-230	150-250	160-310	-	-
J3		145-210	180-265	225-325	235-380	330-480	370-610

AWB-M (METRIC SERRATION) Soft top jaws



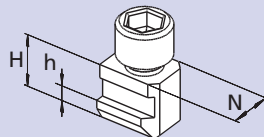
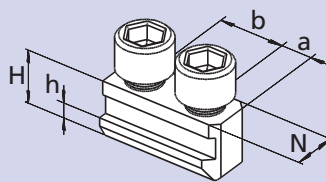
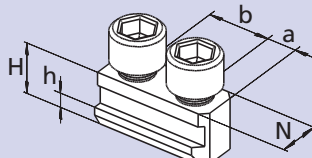
Chuck	HFKN-C 110*	HFKN-M 165	HFKN-M 210	HFKN-M 260	HFKN-M 315	HFKN-M 400	HFKN-M 500
Jaw type	WBR	AWB-M	AWB-M	AWB-M	AWB-M	AWB-M	AWB-M
Id. No.	013843	081719	081720	081722	035957	036791	036791
Serration	S08 N08	1.5 x 60°	1.5 x 60°	1.5 x 60°	1.5 x 60°	3 x 60°	3 x 60°
B	20	30	35	40	50	60	60
H	25	32	40	40	50	60	60
L	53	82	102	125	120	140	140
N	S08 N08	12	14	16	21	25.5	25.5
a	30.5	47	57	65	70	80	80
b	15	20	25	30	30	35	35
c	0	4	4	6	6	-	-
kg / set	0.45	1.4	2.5	3.95	5.1	9.65	-

* Size 110 with TONGUE & GROOVE.

JAWS-CATALOG

Request or
download:
www.smw-autoblok.de



		HFKN-C		HFKN-D		HFKN-M				
■ T-Nuts ■ Grease		TONGUE & GROOVE		INCH SERRATION		METRIC SERRATION				
NST T-nuts suitable for HFKN-D 		Chuck	HFKN-D 110	HFKN-D 165	HFKN-D 210	HFKN-D 260	HFKN-D 315	HFKN-D 400	HFKN-D 500	
		T-nut type		NST	NST	NST	NST	NST	NST	NST
		Id. No.		035958	034245	034197	034197	014812	014812	
		N		14	17	21	21	25.5	25.5	
		H		18.5	20.5	26.5	26.5	29	29	
		h		6.5	7.5	10	10	11	11	
		Cyl.-screw ISO 4762-12.9		M10 x 20	M12 x 25	M16 x 35	M16 x 35	M20 x 40	M20 x 40	
		Torque Md max. (Nm)		50	70	150	150	300	300	
NSTE T-nuts suitable for HFKN-D 		Chuck	HFKN-D 110	HFKN-D 165	HFKN-D 210	HFKN-D 260	HFKN-D 315	HFKN-D 400	HFKN-D 500	
		T-nut type		NSTE	NSTE	NSTE	NSTE	NSTE	NSTE	NSTE
		Id. No.	038265	73061650	73062150	73063050	73063050	081817	081817	
		N	8	14	17	21	21	25.5	25.5	
		H	13.5	18.5	20.5	26.5	26.5	29	29	
		h	5.0	6.5	7.5	10	10	11	11	
		a	5	8	10	13	13	16	16	
		b	12	16	23	30	30	35	35	
		Cyl.-screw ISO 4762-12.9	M6 x 20	M10 x 20	M12 x 25	M16 x 35	M16 x 35	M20 x 40	M20 x 40	
		Torque Md max. (Nm)	16	50	70	150	150	300	300	
NSTE T-nuts suitable for HFKN-M 		Chuck	HFKN-M 110	HFKN-M 165	HFKN-M 210	HFKN-M 260	HFKN-M 315	HFKN-M 400	HFKN-M 500	
		T-nut type		NSTE-M	NSTE-M	NSTE-M	NSTE-M	NSTE-M	NSTE-M	NSTE-M
		Id. No.		73061602	73062101	73062501	73063050	081817	081817	
		N		12	14	16	21	25.5	25.5	
		H		18.5	20.5	26.5	26.5	29	29	
		h		6.5	7.5	10	10	11	11	
		a		8	10	13	13	16	16	
		b	20	25	30	30	35	35		
		Cyl.-screw ISO 4762-12.9		M10 x 20	M12 x 25	M12 x 35	M16 x 35	M20 x 40	M20 x 40	
		Torque Md max. (Nm)		50	70	70	150	300	300	

**Important for maintenance and safe operation,
to be ordered with the chuck**

Grease K05®

Special grease for
manual and power chucks



Cartridge 14 Oz. (DIN 1284)
Grease content 500 g
Id. No. 016440



Can 1000 g
Id. No. 011881

- High adhesion
- High resistance against coolant
- High load bearing capacity
- Low friction coefficient
- High gripping force
- Avoids tribocorrosion

Grease gun

Grease gun (DIN 1283) for
cartridges 14 Oz. (DIN 1284)

■ Also refillable from grease can 1000 g



Lubrication set Id. No. 083726

Supply range

- Grease gun
- 1 Adapter flexible for high pressure grease nipple
- 1 Adapter for cone grease nipple